



**SECOND QUARTER 1992 PROGRESS REPORT
L.E. CARPENTER SITE, WHARTON, NEW JERSEY**

AUG 1992

Prepared on behalf of L.E. Carpenter and Company
for the New Jersey Department of Environmental
Protection and Energy

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L.E. CARPENTER QUARTERLY REPORT

1.0 GROUNDWATER ACTIVITIES

Pursuant to the New Jersey Department of Environmental Protection and Energy (NJDEPE) correspondence from Christine Purcell received on 14 May 1992, the scope of the quarterly monitoring activities changed significantly during this quarter. As of June 1992, the quarterly monitoring activities will consist of the following:

- Monitor wells MW-4, MW-14S, MW-22 and MW-25 will be sampled quarterly and MW-15S will be sampled biannually. These samples will be analyzed for benzene, toluene, ethylbenzene and xylene (BTEX) via EPA Method 602.
- Water level measurements will be made at all wells, drainage channel points, and river points on a quarterly basis.
- Monitoring and maintenance of the product recovery system will continue on a monthly basis.

In as much as these changes occurred in May of 1992, the current quarterly progress report features water level and product thickness observations from May and June 1992. All subsequent quarterly progress reports will feature one data set per quarter.

1.1 Groundwater Level Measurement

Water level and product thickness measurements were made at all of the monitoring wells at the L.E. Carpenter site on 20 May and 16 June 1992. Water level measurements were also made at eight (8) staff gauges and at the RP-I measurement point. Surface water elevations were determined by measuring the vertical distance between the top of the staff gauge (or paint mark) and the water surface. A water level measurement could not be acquired at MW-14D during the 16 June measurement round because artisan flow was occurring at that well during the measurement activities.

1.2 Groundwater Sampling

Groundwater monitoring wells MW-4, MW-14S, MW-22, MW-25 and MW-15S were sampled for BTEX analysis on 17 June 1992. Decontaminated submersible pumps were used to purge a minimum of three well volumes from each well prior to sampling. Laboratory cleaned teflon bailers were used to collect the samples. The samples were placed in forty (40) milliliter glass vials and preserved at four (4) degree centigrade in a designated sample cooler. The samples

were shipped with the necessary trip and field blanks to the WESTON Analytical Laboratory in Lionville, PA via overnight courier under a WESTON chain-of-custody

1.3 Product Recovery

No significant operational difficulties were encountered with the Enhanced Immiscible Product Recovery System (EIPRS). A total of 1,038 gallons of product was recovered by the system during the second quarter.



2.0 RESULTS

2.1 Groundwater Elevation Data

Groundwater level elevation data for both measurement rounds are presented in Tables 1 and 2 in Appendix I. For these data, water table depression caused by the floating product layer was corrected using the following equation:

$$DTW_c = DTW_o - \Delta h_{pr} (SG_{pr})^1$$

where:

DTW_c = depth to water corrected

DTW_o = depth to water observed

Δh_{pr} = thickness of product

SG_{pr} = specific gravity of product

A value for SG_{pr} of 0.86 was calculated by taking the weighed average specific gravity of the three main components of the product, bis (2-ethylhexyl) phthalate, ethylbenzene and xylene.

As described in Section 1.1, a water level measurement could not be obtained at MW-14D during the 16 June measurement round. No other difficulties were encountered which would significantly affect the water level data.

2.2 BTEX Analytical Results

BTEX analytical results for groundwater samples collected from MW-2, MW-4, MW-14S, MW-15S, MW-22 and MW-25 are presented in Appendix III. These data are summarized in Table 2-1. The highest BTEX concentrations were detected in MW-22. BTEX concentrations in the two sentinel wells, MW-15S and MW-25, were below the method detection limits. Benzene and toluene were detected in MW-22 at concentrations of 2.0 and 2.7 ug/L, respectively. The concentrations of ethylbenzene varied from below the method detection limits in MW-15S and

¹

From Tests, S.M. and Weigardner, D.L., 1991. Restoration of Petroleum Contaminated Aquifers, p. 269 Lewis Publishers, Chelsey, Michigan



Table 2-1

**Summary of BTEX Analytical Results
Second Quarter 1992
L.E. Carpenter Site, Wharton, New Jersey**

Parameter	Concentration (in ug/L)				
	MW-4	MW-14S	MW-15S	MW-22	MW-25
Benzene	1.0 U	1.0 U	1.0 U	2.0	1.0 U
Toluene	1.0 U	1.0 U	1.0 U	2.7	1.0 U
Ethylbenzene	33	34	1.0 U	2500	1.0 U
Xylene	83	160	2.0 U	20,000	2.0 U

Data Qualifiers

U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.

J = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria, but the result is less than the specified detection limit but greater than zero; for example, if the limit of detection os 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.



MW-25 to 2,500 ug/L in MW-22. Similarly, the concentrations of xylene varied from below the method detection limit in MW-15S and MW-25 to 20,000 ug/L in MW-22



3.0 DISCUSSION

Figures 1 and 3 (Appendix II) show shallow groundwater levels which are similar to those presented in the First Quarter 1992 Progress Report for L.E. Carpenter Site, Wharton, New Jersey. Figure 1 shows that during May the Rockaway River is a losing stream and, as such, it acts as a recharge boundary along the southern perimeter of the site. Note that in Table 1 the water elevation at RP-2 is 625.87 feet above mean sea level (ft. MSL) and the water table elevation at MW-7 is 625.30 ft. MSL. In the area immediately adjacent to the river, the direction of the groundwater flow is toward the site. This pattern is less pronounced during June (see Figure 2, Appendix II) possibly due to reduced flow volume in Rockaway River during the drier summer months. Regardless, the data shows that the Rockaway River is a losing stream during June as well. A comparison of data from RP-2 and MW-7 in Table 2 (see Appendix I) shows the water level at RP-2 (625.97 ft. MSL) is higher than that at MW-7 (625.54). The equipotential patterns presented in Figures 1 and 3 are representative of the base flow conditions which have been observed previously. Under these conditions, the general direction of groundwater flow across the central portion of the site is eastward, toward the Air Products drainage ditch.

The analytical results presented in Table 2-1 indicate that the eastern-most perimeter of the dissolved organic compound plume lies between MW-14S and MW-25 on the Wharton Enterprises property. The western perimeter has not extended to MW-15S. Slightly elevated concentrations of ethylbenzene (33 ug/L) and xylene (83 ug/L) were detected at MW-4. In its 14 May 1992 correspondence, the NJDEPE indicated that recent increases in the organic compound concentrations at observed at MW-4 do not support the theory that the groundwater flow lines in this area are oriented away from the Rockaway River recharge boundary. Figures 1 and 3 (see Appendix II) indicate that under base-flow conditions MW-4 is located near a localized depression in the water table between the Rockaway River recharge boundary and the relatively elevated areas to the west near MW-12S and to the north near MW-10. This depression may be related to localized downward vertical gradients caused by stratigraphic heterogeneities in the shallow aquifer zone. The analytical results presented in Table 2-1 indicate that the shallow groundwater in this depression may be receiving organic compounds from these areas via advective transport. Since these compounds are less dense than water, they would not be pulled downward by the localized downward vertical gradients and, over time, would tend to concentrate in the shallow groundwater within this depression. Since the water level elevations along the Rockaway River are consistently higher than those at MW-4, discharge of these organics to the Rockaway River is not possible.

The shallow groundwater flow is toward the Air Products drainage ditch in the northeastern area of the site. Both data sets show that the observed water levels in MW-13S, on Air Products side



of the ditch, are consistently higher than those measured along the drainage ditch.

The floating product isopach maps (Figures 2 and 4, Appendix II) indicate that the operation of EIPRS has a dramatic affect on the thickness of floating product at the site. Figures 2 and 4 show that the floating product layer in the central portion of the site has been significantly reduced by the operation of skimmer pumps in MW-6, MW-10 and MW-11S. Small isolated lenses of product were observed at MW-3 during the 20 May 1992 measurement round and at MW-12S and MW-1 during the 16 June 1992 measurement round (see Figures 2 and 4, Appendix II).

The equipotential maps presented in Figures 5 and 6 (Appendix II) indicate that the general direction of groundwater flow is eastward in the intermediate aquifer zone. Figures 7 and 8 (Appendix II) show that the general direction of groundwater flow in the deep aquifer zone is westward.



4.0 CONCLUSIONS

These data continue to support several important conclusions for the site. First, discharge of groundwater to the Rockaway River is not possible because recharge occurs along that boundary. Shallow horizontal groundwater flow vectors along the river are oriented toward the site.

Second, the BTEX analytical results indicate that the western-most extent of dissolved volatile organic compounds lies between MW-14S and MW-25 on the Wharton Enterprises property. Since the shallow aquifer zone equipotential maps presented in Figures 1 and 3 (see Appendix II) indicate that the direction of shallow groundwater flow on the Wharton Enterprise Property is northward, towards the Air Products drainage ditch, future westward flow of dissolved organic compounds toward the central portion of the Wharton Enterprises property is not likely.

Third, the Air Products drainage ditch receives shallow groundwater discharges. Shallow groundwater flow on either side of the ditch is oriented toward the ditch. Since the floating organics detected at the site are less dense than water, infiltration on the organics into the intermediate and deep aquifer zones is not likely. The intermediate and deep wells did not show elevated concentrations of organics in any of the sampling which has taken place to date. Therefore, the majority of the organic compounds at the site are confined to the shallow aquifer zone on the L.E. Carpenter and Wharton Enterprises properties. This interpretation is confirmed by the fact that none of the organic compounds found in monitoring wells installed on the L.E. Carpenter property were detected in well MW-13S (located on the Air Products property) during the remedial investigation sampling activities.

Fourth, both deep aquifer zone equipotential maps (Figures 10, 11 and 12, Appendix II) show that direction of groundwater flow in this zone is southwesterly. There is no substantial data base to support the contention that dense organic compounds were released to the deep aquifer zone in the past.



APPENDIX I

WATER LEVEL DATA TABLES

TABLE 1. DEPTH TO WATER, WATER LEVEL ELEVATION AND PRODUCT THICKNESS DATA,
MEASURED ON 20 MAY, 1992, L.E. CARPENTER SITE, WHARTON, NJ.

WELL	MEASURING PT. ELEVATION (FT MSL)	DEPTH TO PRODUCT (FT)	DEPTH TO WATER (FT)	PRODUCT THICKNESS OR SHEEN OBSERVATIONS (FT)	OBSERVED WATER LEVEL ELEVATION (FT MSL)	CORRECTED WATER LEVEL ELEVATION * (FT MSL)
MW-001	638.97		14.70	SHEEN	624.27	624.27
MW-002	633.39		8.70	SHEEN	624.69	624.69
MW-003	632.27	7.62	7.86	0.24	624.41	624.62
MW-004	632.31		7.56	SHEEN	624.75	624.75
MW-005	632.20		6.98	0.00	625.22	625.22
MW-006	632.00		7.16	SHEEN	624.84	624.84
MW-007	630.68		5.38	0.00	625.30	625.30
MW-008	628.79		3.16	0.00	625.63	625.63
MW-009	630.18		4.64	0.00	625.54	625.54
MW-010	633.65		8.74	SHEEN	624.91	624.91
MW-11S	632.96		8.04	0.00	624.92	624.92
MW-11I	632.82		7.94	0.00	624.88	624.88
MW-11D	632.42		5.08	0.00	627.34	627.34
MW-12S	633.18		7.62	0.00	625.56	625.56
MW-12I	633.06		8.22	0.00	624.84	624.84
MW-13S	631.23		6.28	0.00	624.95	624.95
MW-13I	630.66		6.00	0.00	624.66	624.66
MW-14S	628.51		4.06	0.00	624.45	624.45
MW-14I	628.23		3.68	0.00	624.55	624.55
MW-14D	628.53		1.34	0.00	627.19	627.19
MW-15S	636.77		11.58	0.00	625.19	625.19
MW-15I	636.66		11.48	0.00	625.18	625.18
MW-16S	634.47		7.74	0.00	626.73	626.73
MW-16I	634.96		9.22	0.00	625.74	625.74
MW-17S	634.74		9.46	0.00	625.28	625.28
MW-17D	634.86		9.52	0.00	625.34	625.34
MW-18S	631.26		6.22	0.00	625.04	625.04
MW-18I	631.04		5.82	0.00	625.22	625.22
MW-18D	630.77		4.06	0.00	626.71	626.71
MW-019	638.88		12.56	0.00	626.32	626.32
MW-020	636.77		10.88	0.00	625.89	625.89
MW-021	628.80		4.52	0.00	624.28	624.28
MW-022	628.74		4.18	0.00	624.56	624.56
MW-023	630.64		4.18	0.00	626.46	626.46
MW-024	629.03		3.16	0.00	625.87	625.87
MW-025	627.33		2.94	0.00	624.39	624.39
RW-001	637.38		12.20	0.00	625.18	625.18
RW-002	631.68		7.04	SHEEN	624.64	624.64
RW-003	631.99		7.20	SHEEN	624.79	624.79
GEI-1I	630.78		5.48	0.00	625.30	625.30
GEI-2S	637.27		11.50	0.00	625.77	625.77
GEI-2I	637.27		11.72	0.00	625.55	625.55
GEI-3I	639.85		13.94	0.00	625.91	625.91

TABLE 1 CONTINUED. DEPTH TO WATER, WATER LEVEL ELEVATION AND PRODUCT THICKNESS DATA,
MEASURED ON 20 MAY, 1992, L.E. CARPENTER SITE, WHARTON, NJ.

MEASURING POINT	ELEVATION OF MEASURING POINT (FT MSL)	DEPTH TO WATER (FT)	WATER LEVEL ELEVATION (FT MSL)
DC-P0	625.73	2.57	623.16
DC-P1	625.26	1.90	623.36
DC-P2	626.79	3.34	623.45
DC-P3	625.22	2.06	623.16
DC-P4	625.10	2.16	622.94
DC-P5	625.16	2.22	622.94
RP-01	629.65	3.20	626.45
RP-02	627.75	1.88	625.87
RP-03	627.11	2.68	624.43

TABLE 2. DEPTH TO WATER, WATER LEVEL ELEVATION AND PRODUCT THICKNESS DATA,
MEASURED ON 16 JUNE, 1992, L.E. CARPENTER SITE WHARTON, NJ.

WELL	MEASURING PT. ELEVATION (FT MSL)	DEPTH TO PRODUCT (FT)	DEPTH TO WATER (FT)	PRODUCT THICKNESS OR SHEEN OBSERVATIONS (FT)	OBSERVED WATER LEVEL ELEVATION (FT MSL)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
MW-001	638.97	12.20	14.12	1.92	624.85	626.50
MW-002	633.39		7.60	SHEEN	625.79	625.79
MW-003	632.27	6.53	6.89	0.36	625.38	625.69
MW-004	632.31		7.33	SHEEN	624.98	624.98
MW-005	632.20		5.82	0.00	626.38	626.38
MW-006	632.00		6.78	0.00	625.22	625.22
MW-007	630.68		5.14	SHEEN	625.54	625.54
MW-008	628.79		2.78	0.00	626.01	626.01
MW-009	630.18		3.96	0.00	626.22	626.22
MW-010	633.65		7.69	SHEEN	625.96	625.96
MW-11S	632.96		7.28	0.00	625.68	625.68
MW-11I	632.82		6.71	0.00	626.11	626.11
MW-11D	632.42		3.38	0.00	629.04	629.04
MW-12S	633.18	7.20	8.20	1.00	624.98	625.84
MW-12I	633.06		7.05	0.00	626.01	626.01
MW-13S	631.23		5.45	0.00	625.78	625.78
MW-13I	630.66		4.86	0.00	625.80	625.80
MW-14S	628.51		3.02	0.00	625.49	625.49
MW-14I	628.23		2.58	0.00	625.65	625.65
MW-14D	628.53		ARTESIAN	0.00	ARTESIAN	ARTESIAN
MW-15S	636.77		10.32	0.00	626.45	626.45
MW-15I	636.66		10.20	0.00	626.46	626.46
MW-16S	634.47		7.13	0.00	627.34	627.34
MW-16I	634.96		7.85	0.00	627.11	627.11
MW-17S	634.74		8.00	0.00	626.74	626.74
MW-17D	634.86		8.05	0.00	626.81	626.81
MW-18S	631.26		5.45	0.00	625.81	625.81
MW-18I	631.04		4.88	0.00	626.16	626.16
MW-18D	630.77		2.40	0.00	628.37	628.37
MW-019	638.88		11.30	0.00	627.58	627.58
MW-020	636.77		9.80	0.00	626.97	626.97
MW-021	628.80		3.40	0.00	625.40	625.40
MW-022	628.74		3.05	0.00	625.69	625.69
MW-023	630.64		3.60	0.00	627.04	627.04
MW-024	629.03		2.90	0.00	626.13	626.13
MW-025	627.33		1.85	0.00	625.48	625.48
RW-001	637.38		10.86	SHEEN	626.52	626.52
RW-002	631.68		5.98	0.00	625.70	625.70
RW-003	631.99		6.10	0.00	625.89	625.89
GEI-1I	630.78		4.52	0.00	626.26	626.26
GEI-2S	637.27		10.18	0.00	627.09	627.09
GEI-2I	637.27		10.31	0.00	626.96	626.96
GEI-3I	639.85		12.46	0.00	627.39	627.39

* Estimated water level elevation calculated using a product specific gravity of 0.86.

** Measuring point elevation corrected to top of plastic cover casing.

TABLE 2 CONTINUED. DEPTH TO WATER, WATER LEVEL ELEVATION AND PRODUCT THICKNESS DATA,
MEASURED ON 16 JUNE, 1992, L.E. CARPENTER SITE, WHARTON, N.J.

MEASURING POINT	ELEVATION OF MEASURING PO	DEPTH TO WATER	WATER LEVEL ELEVATION
DC-P0	625.73	2.39	623.34
DC-P1	625.26	1.76	623.50
DC-P2	626.79	3.30	623.49
DC-P3	625.22	1.90	623.32
DC-P4	625.10	1.96	623.14
DC-P5	625.16	2.04	623.12
RP-01	629.65	2.98	626.67
RP-02	627.75	1.78	625.97
RP-03	627.11	2.50	624.61



APPENDIX II

EQUIPOTENTIAL MAPS

LEGEND

- PROPERTY LINE
CONTOUR LINE
CONTOUR INTERVAL = 0.5 foot
FORMER PRODUCTION WELL

MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983

MONITOR WELL INSTALLED 1983

MONITOR WELL INSTALLED 1989

MONITOR WELL INSTALLED 1991

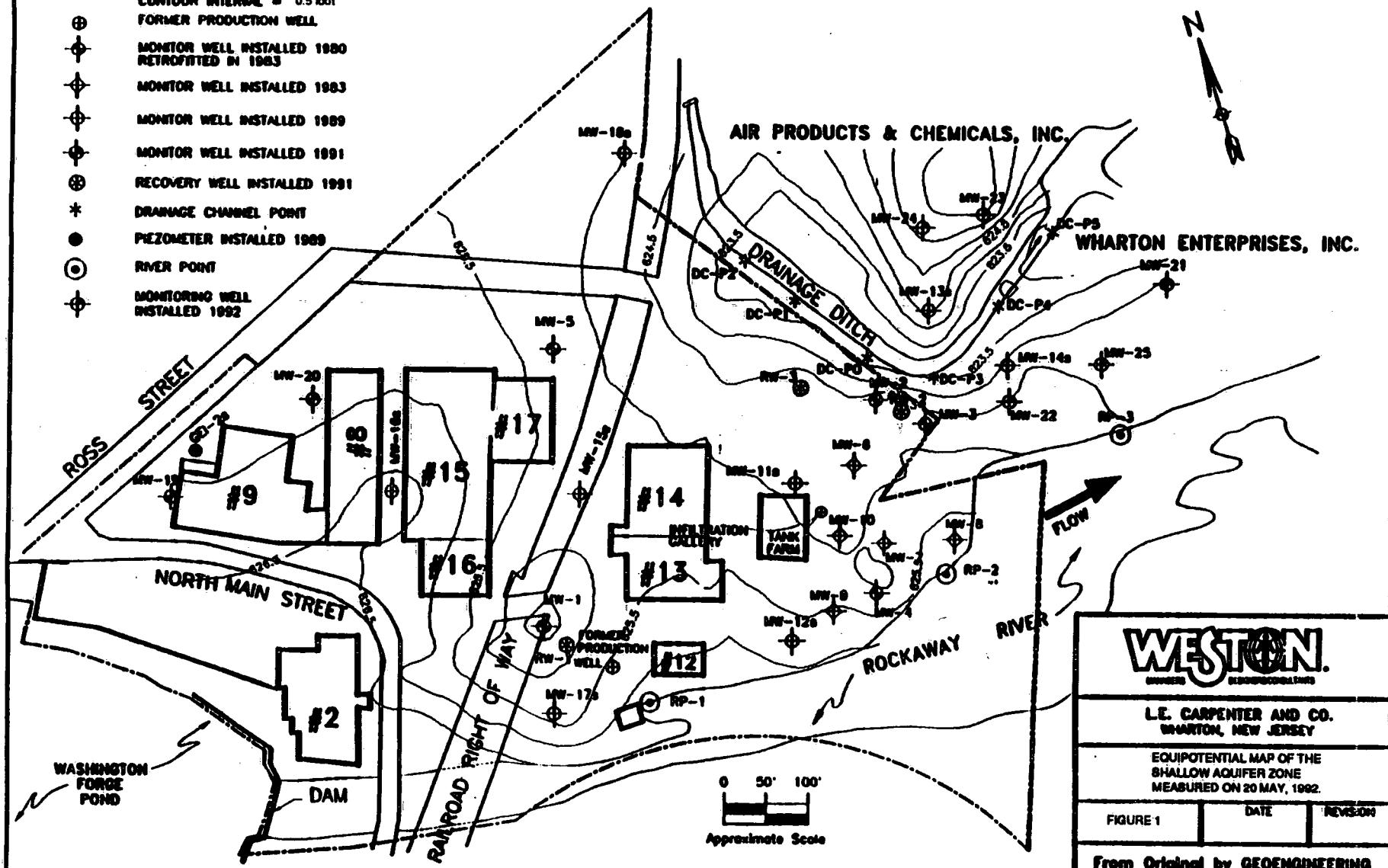
RECOVERY WELL INSTALLED 1991

DRAINAGE CHANNEL POINT

PIEZOMETER INSTALLED 1989

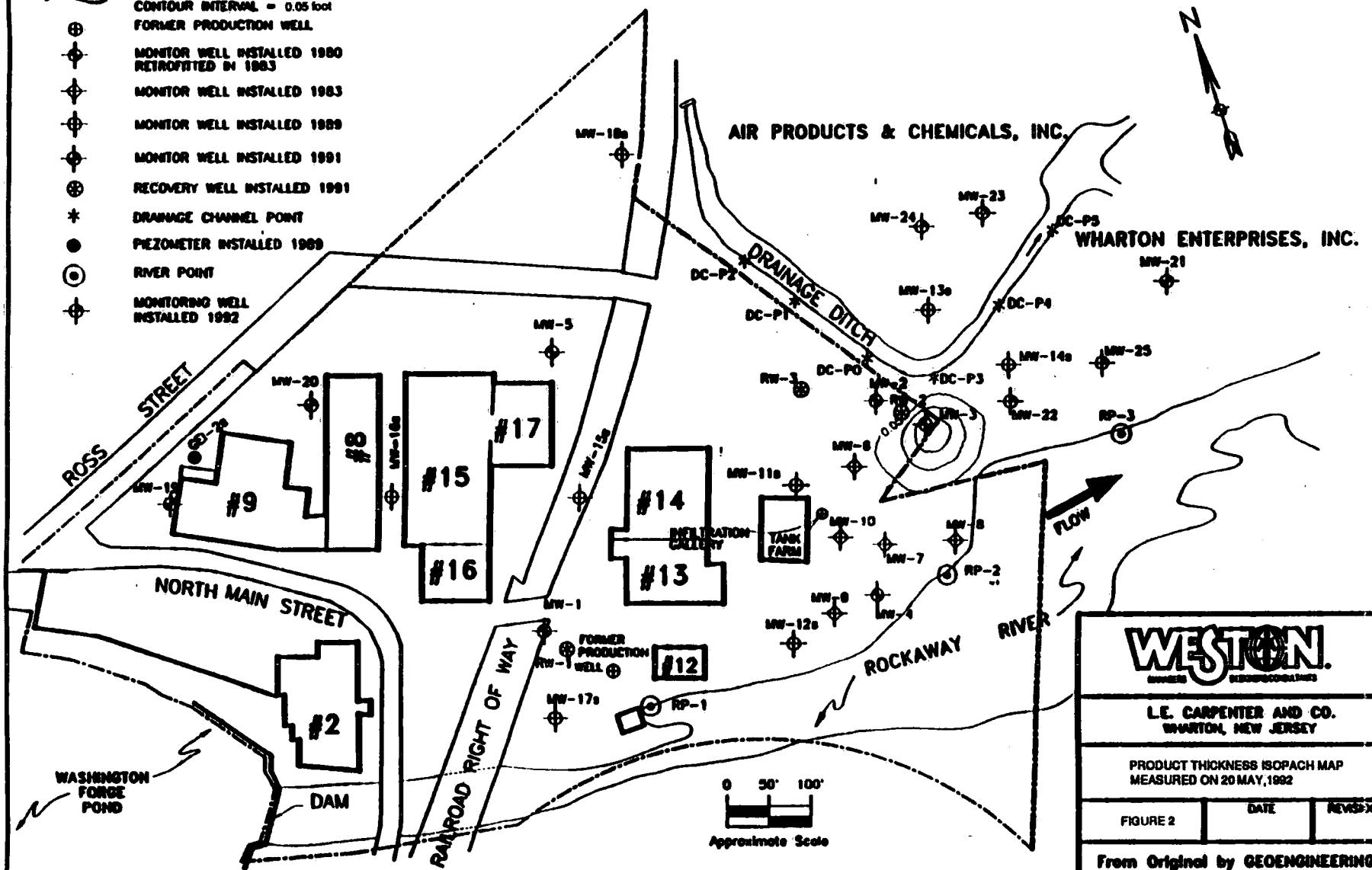
RIVER POINT

MONITORING WELL
INSTALLED 1982



LEGEND

- PROPERTY LINE
- CONTOUR LINE
- CONTOUR INTERVAL = 0.05 foot
- FORMER PRODUCTION WELL
- MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983
- MONITOR WELL INSTALLED 1983
- MONITOR WELL INSTALLED 1989
- MONITOR WELL INSTALLED 1991
- RECOVERY WELL INSTALLED 1991
- DRAINAGE CHANNEL POINT
- PIEZOMETER INSTALLED 1989
- RIVER POINT
- MONITORING WELL
INSTALLED 1982



LEGEND

- PROPERTY LINE**
CONTOUR LINE
CONTOUR INTERVAL = 0.5 foot
FORMER PRODUCTION WELL

MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983

MONITOR WELL INSTALLED 1983

MONITOR WELL INSTALLED 1989

MONITOR WELL INSTALLED 1991

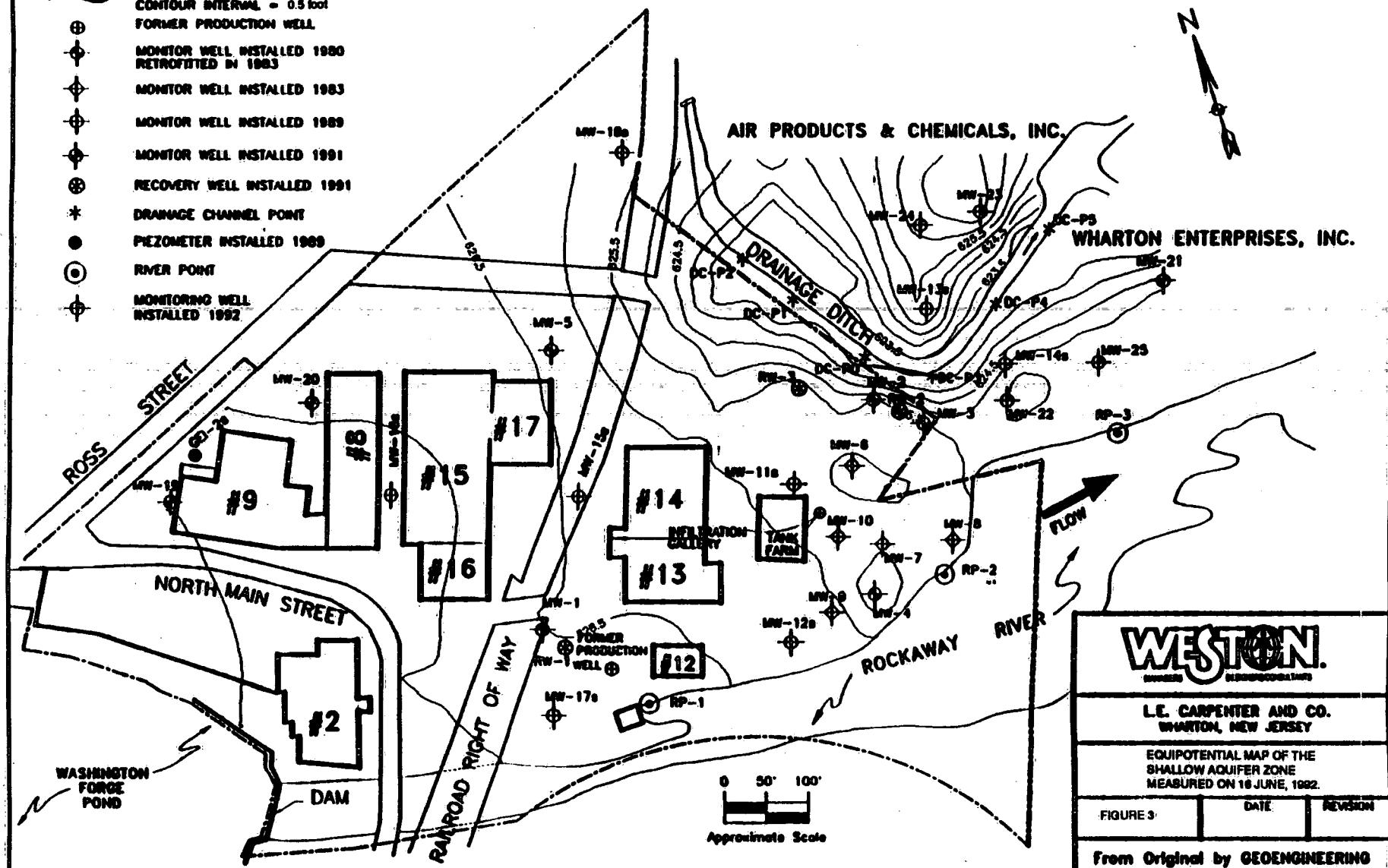
RECOVERY WELL INSTALLED 1991

DRAINAGE CHANNEL POINT

PIEZOMETER INSTALLED 1989

RIVER POINT

MONITORING WELL
INSTALLED 1992



LEGEND

- PROPERTY LINE
 CONTOUR LINE
 CONTOUR INTERVAL = 0.5 foot
 FORMER PRODUCTION WELL

 MONITOR WELL INSTALLED 1980
 RETROFITTED IN 1983

 MONITOR WELL INSTALLED 1983

 MONITOR WELL INSTALLED 1989

 MONITOR WELL INSTALLED 1991

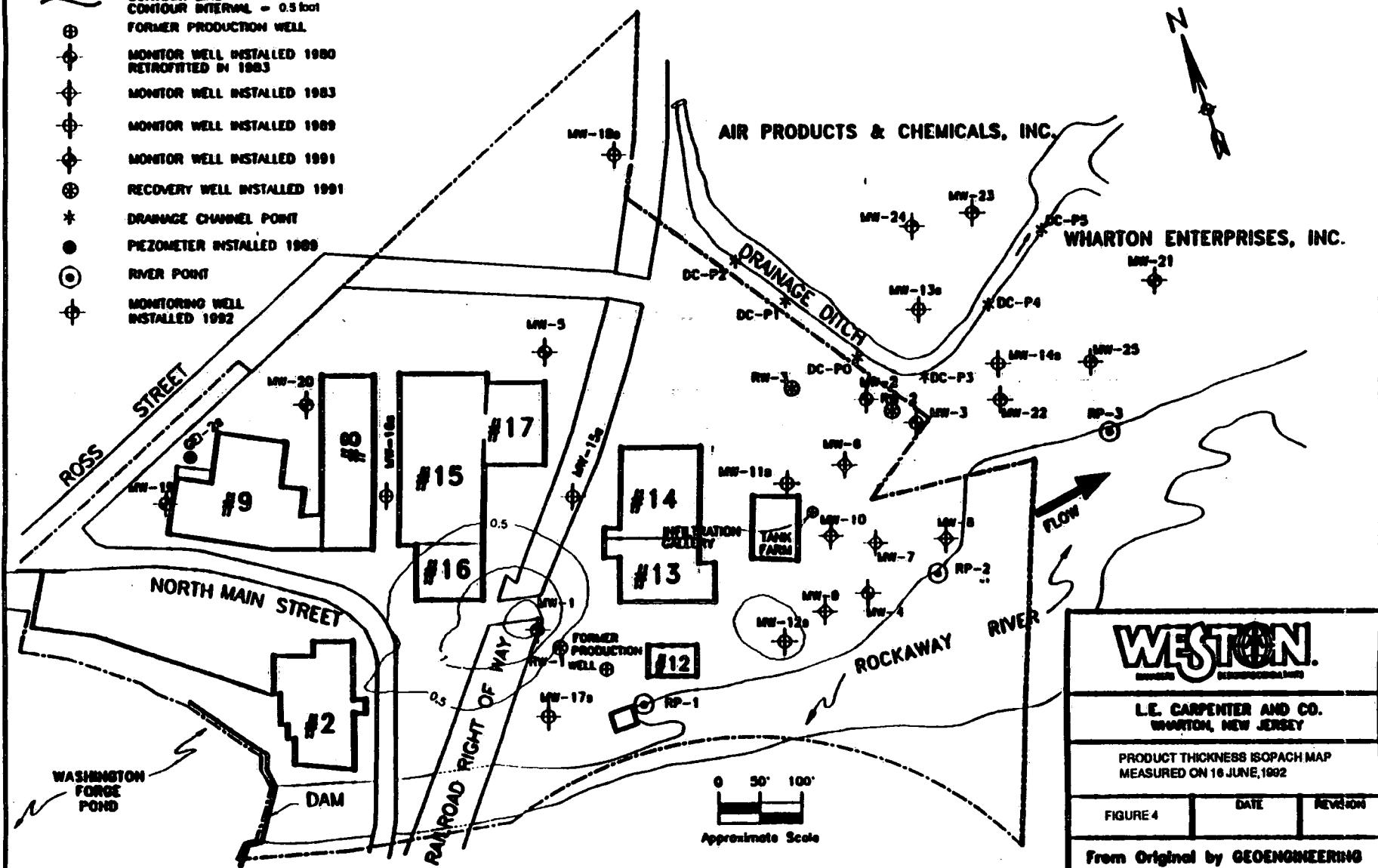
 RECOVERY WELL INSTALLED 1991

 DRAINAGE CHANNEL POINT

 PIEZOMETER INSTALLED 1980

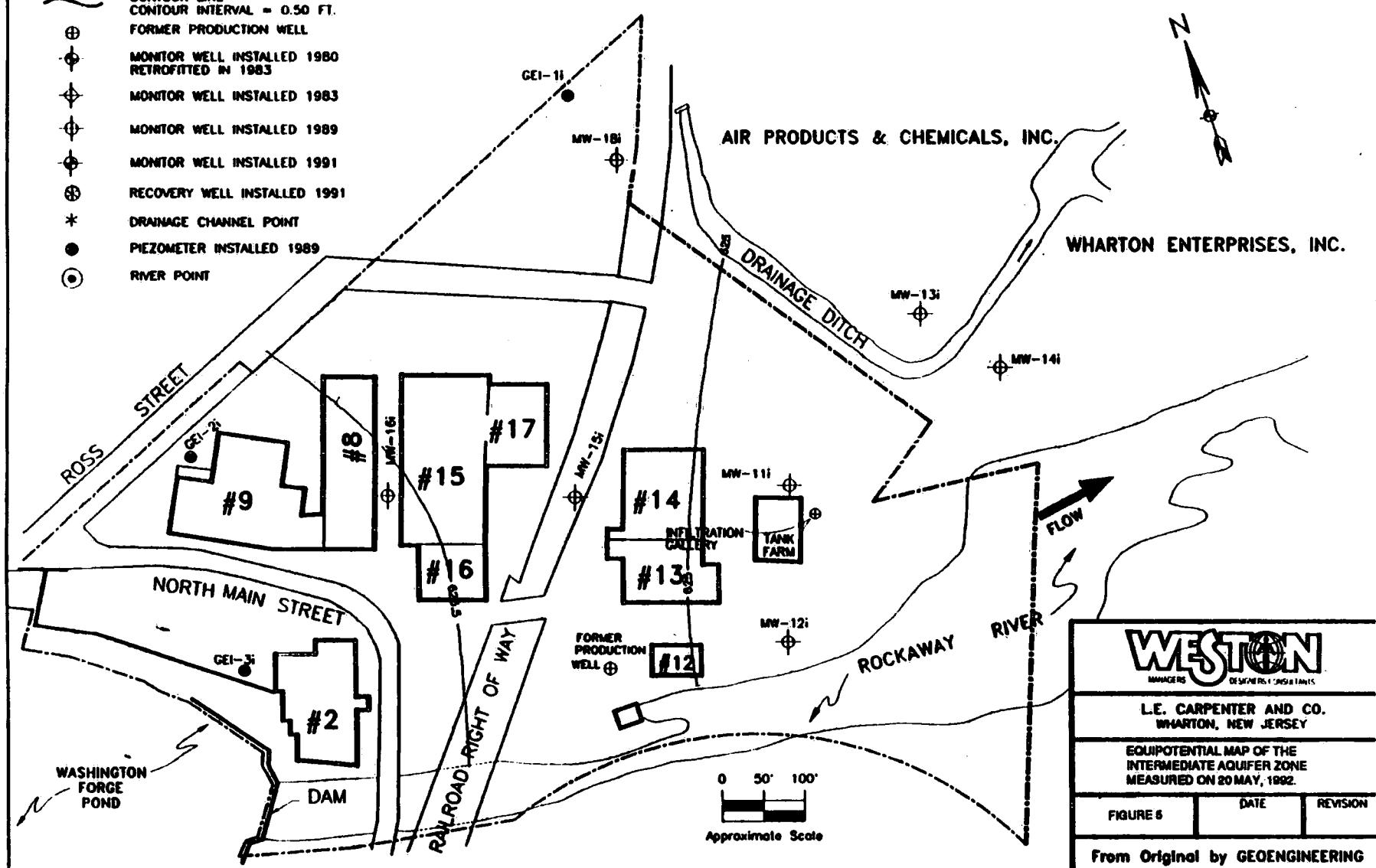
 RIVER POINT

 MONITORING WELL
 INSTALLED 1992



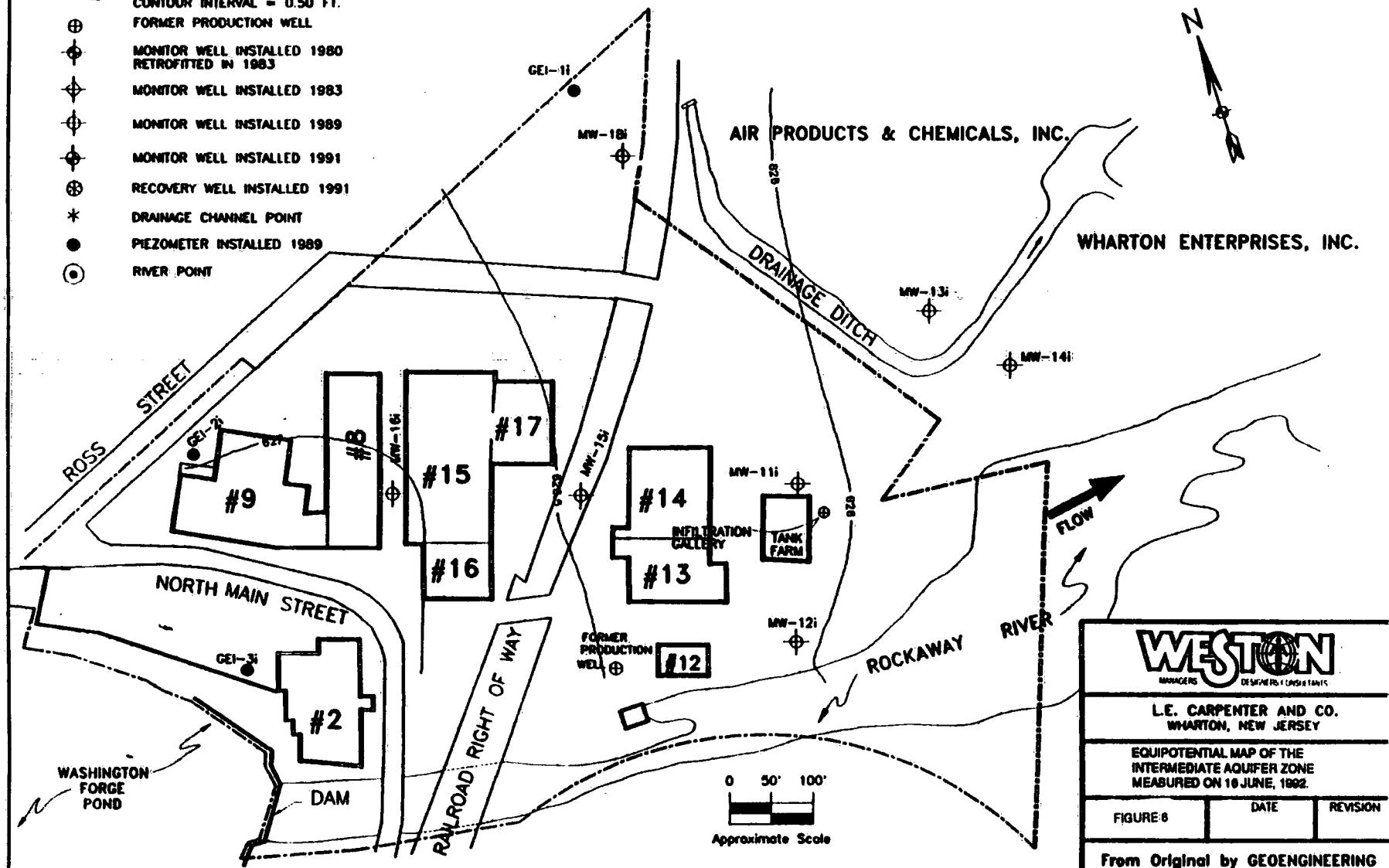
LEGEND

- PROPERTY LINE
CONTOUR LINE
CONTOUR INTERVAL = 0.50 FT.
FORMER PRODUCTION WELL
MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983
MONITOR WELL INSTALLED 1983
MONITOR WELL INSTALLED 1989
MONITOR WELL INSTALLED 1991
RECOVERY WELL INSTALLED 1991
DRAINAGE CHANNEL POINT
PIEZOMETER INSTALLED 1989
RIVER POINT



LEGEND

- PROPERTY LINE
- CONTOUR LINE
- CONTOUR INTERVAL = 0.50 FT.
- FORMER PRODUCTION WELL
- MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983
- MONITOR WELL INSTALLED 1983
- MONITOR WELL INSTALLED 1989
- MONITOR WELL INSTALLED 1991
- RECOVERY WELL INSTALLED 1991
- DRAINAGE CHANNEL POINT
- PIEZOMETER INSTALLED 1989
- RIVER POINT



WESTON
MANAGERS DESIGNERS CONSULTANTS

L.E. CARPENTER AND CO.
WHARTON, NEW JERSEY

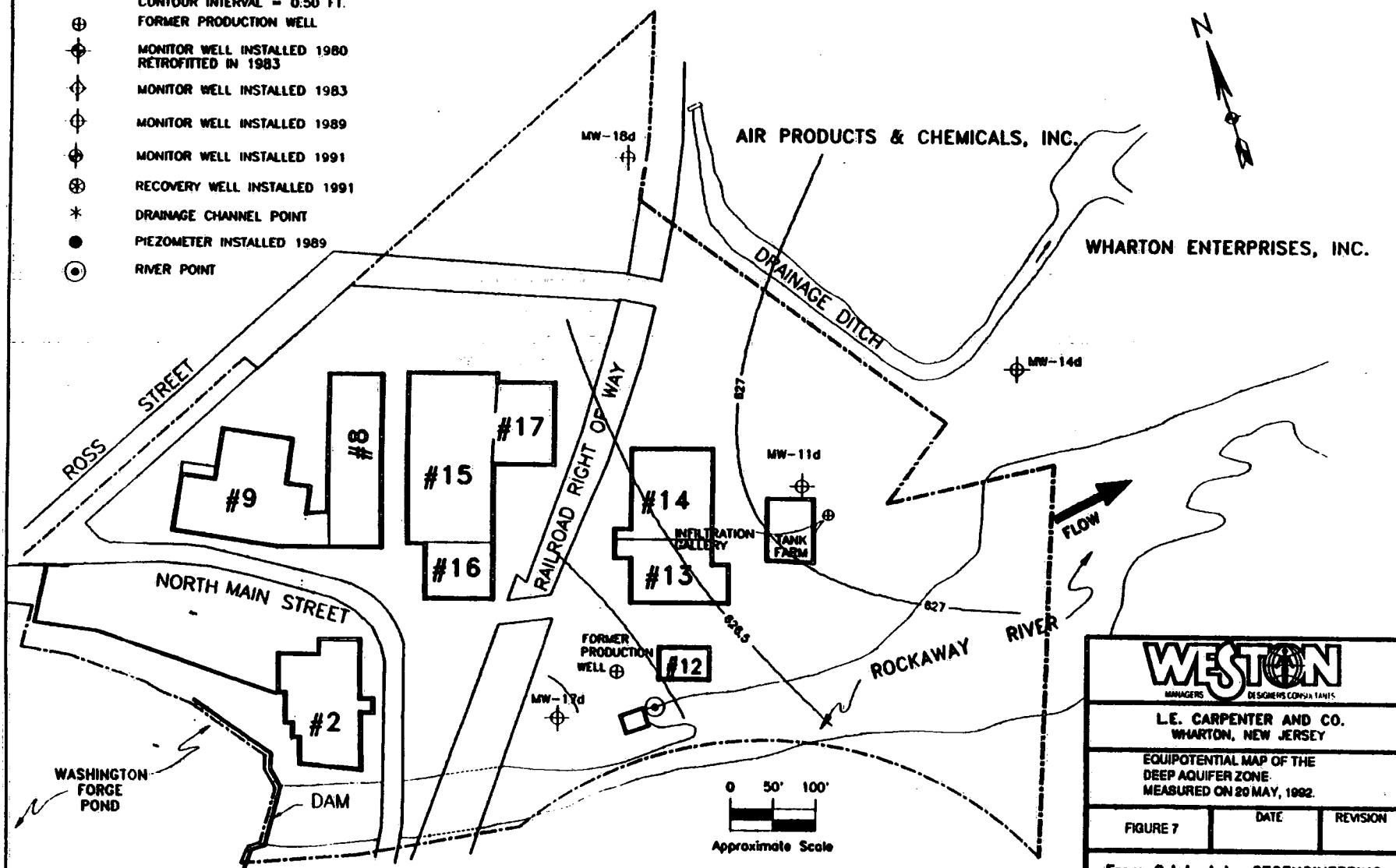
EQUIPOTENTIAL MAP OF THE
INTERMEDIATE AQUIFER ZONE
MEASURED ON 16 JUNE, 1982.

FIGURE 8 DATE REVISION

From Original by GEOENGINEERING

LEGEND

- PROPERTY LINE
- CONTOUR LINE
- CONTOUR INTERVAL = 0.50 FT.
- FORMER PRODUCTION WELL
- MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983
- MONITOR WELL INSTALLED 1983
- MONITOR WELL INSTALLED 1989
- MONITOR WELL INSTALLED 1991
- RECOVERY WELL INSTALLED 1991
- DRAINAGE CHANNEL POINT
- PIEZOMETER INSTALLED 1989
- RIVER POINT



WESTON
MANAGERS DESIGNERS CONSTRUCTORS

L.E. CARPENTER AND CO.
WHARTON, NEW JERSEY

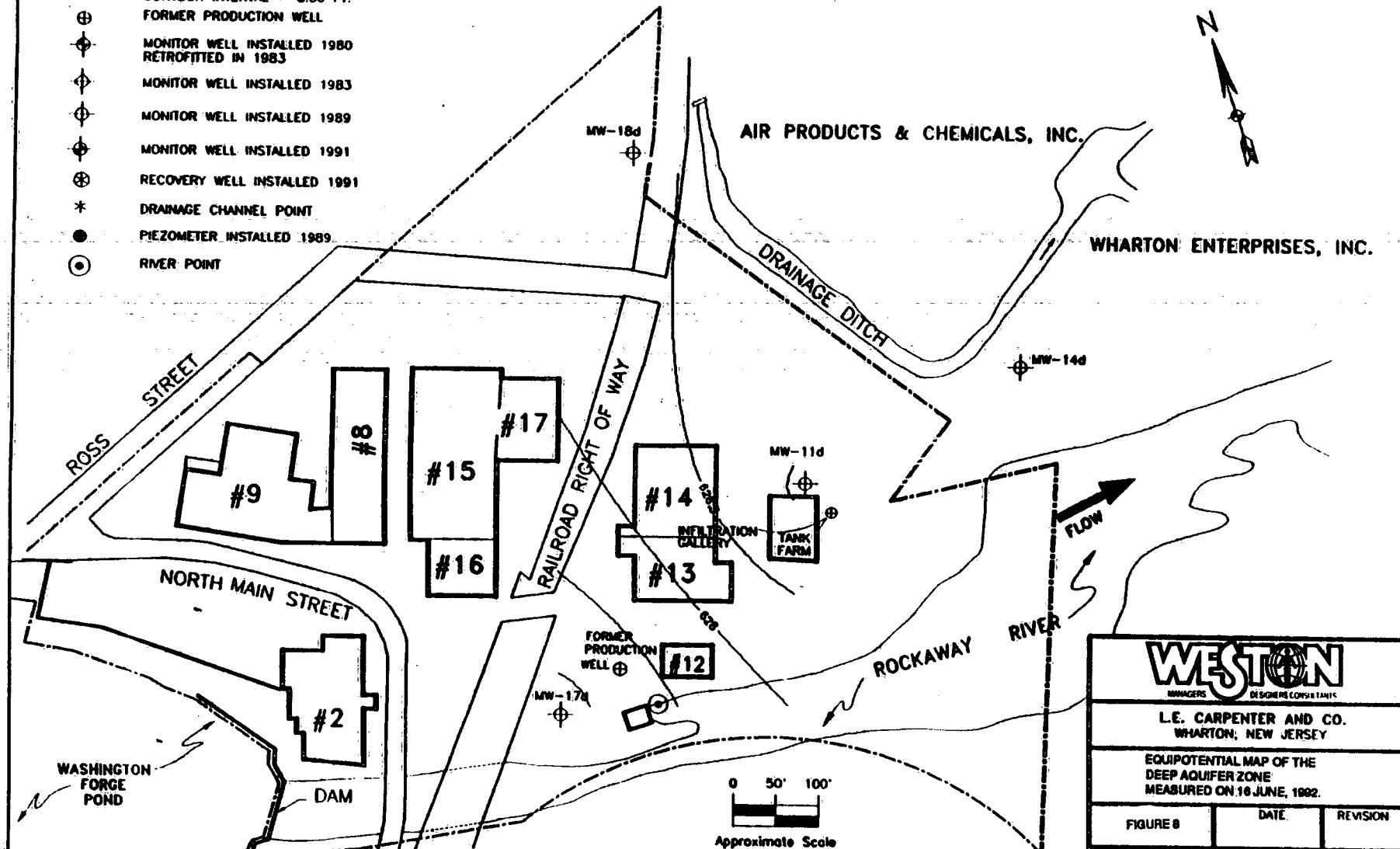
EQUIPOTENTIAL MAP OF THE
DEEP AQUIFER ZONE:
MEASURED ON 20 MAY, 1992.

FIGURE 7	DATE	REVISION
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From Original by GEOENGINEERING

LEGEND

- PROPERTY LINE
- CONTOUR LINE
- CONTOUR INTERVAL = 0.50 FT.
- FORMER PRODUCTION WELL
- MONITOR WELL INSTALLED 1980
RETROFITTED IN 1983
- MONITOR WELL INSTALLED 1983
- MONITOR WELL INSTALLED 1989
- MONITOR WELL INSTALLED 1991
- RECOVERY WELL INSTALLED 1991
- DRAINAGE CHANNEL POINT
- PIEZOMETER INSTALLED 1989
- RIVER POINT



WESTON
MANAGERS DESIGNERS CONSULTANTS

L.E. CARPENTER AND CO.
WHARTON, NEW JERSEY

EQUIPOTENTIAL MAP OF THE
DEEP AQUIFER ZONE
MEASURED ON 16 JUNE, 1992.

FIGURE 8 DATE REVISION

From Original by GEOENGINEERING



APPENDIX III

BTEX ANALYTICAL RESULTS

Roy F. Weston, Inc. - Lionville Laboratory
 602X ANALYTICAL DATA PACKAGE FOR
 WSI LE CARPENTER

DATE RECEIVED: 06/18/92

RFW LOT #: 9206L689

CLIENT ID	RFW #	MTX	PREP #	COLLECTION EXTR/PREP	ANALYSIS
FB-1	001	W	92LV5098	06/17/92	N/A
TBLK-1	002	W	92LV5098	06/17/92	N/A
MW-4	003	W	92LV5098	06/17/92	N/A
MW-4	003 MS	W	92LV5098	06/17/92	N/A
MW-4	003 MSD	W	92LV5098	06/17/92	N/A
MW-22	004	W	92LV5098	06/17/92	N/A
MW-22	004 D1	W	92LV5099	06/17/92	N/A
MW-25	005	W	92LV5098	06/17/92	N/A
MW-14	006	W	92LV5098	06/17/92	N/A
MW-14	006 D1	W	92LV5099	06/17/92	N/A
MW-15	007	W	92LV5098	06/17/92	N/A

LAB QC:

BLK	MB1	W	92LV5098	N/A	N/A	06/22/92
BLK	MB1 BS	W	92LV5098	N/A	N/A	06/22/92
BLK	MB1	W	92LV5099	N/A	N/A	06/23/92
BLK	MB1 BS	W	92LV5099	N/A	N/A	06/23/92



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QC Summary.....	N/A
Sample Data.....	11
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Raw QC Data.....	88

000001

WESTEN

CHAIN OF CUSTODY

9206L689

Mike Young (pm) (Date) *yellow st* *weights* *be v/s*

Custody Transfer Record/Lab Work Request

Client USI - L-E (910-0-012) Est. Final Proj. Sampling Date Work Order # 3660-04-90-0004 Project Contact/Phone # K Tysor - EOC 703-455-3570 AD Project Manager O'NEILL, Michael QC CLP Dpt. CLP TAT 30 DAYS Date Rec'd 6/15/92 Date Due 7/18/92 Account # USI LEC ARPE				Refrigerator # #/Type Container Liquid 21G Solid 7 Volume Liquid 50ml Solid Preservatives ANALYSES REQUESTED → ORGANIC INORG VOA BNA Pest/PCB Herb Metal CN BTEX											
MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge W - Water O - Oil A - Air DR - Drum S - Solid DL - Drum/Liquid EP/TCLP L - Location WI - Wipe X - Other F - Fish				WESTON Analytics Use Only											
	Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Matrix	Date Collected	Time Collected									
				MS	MSD										
	001	FB+1		W	6/17/92	0937									
	002	TBLK-1		W		0940									
	003	MU-4	✓	S		1025									
	004	MU-22		W		1115									
	005	MU-25		W		1222									
	006	MU-145		W		1410									
007	MU-158		W		1520										

FIELD PERSONNEL: COMPLETE ONLY SHADeD AREAS

Special Instructions:

Sample # 606 & 607 clear T.D.'s
have an slack thru S by field
personnel, did not used to (fogged)
use in lines.

DATE/REVISIONS:

DATE/REVISIONS:
6/18/92. 2 extra VOA viats received with volume

6-19-52: add P.M. make young to C.O.C., add
W.S.I. - to front of Client Name. If
address to clear client F.I.D.'s slash
or thru letter S.

WESTON Analytics Use Only

Samples were:

- 1) Shipped or Hand Delivered
- 2) Ambient or Chilled
- 3) Received in Good Condition Y or N
- 4) Labels Indicate Properly Preserved Y or N

COC Tape was:

- 1) Present on Outer Package Y or N
- 2) Unbroken on Outer Package Y or N
- 3) Present on Sample Y or N
- 4) Unbroken on Sample Y or N

**COC Record Present
Upon Sample Rec't**

Relinquished by	Received by	Date	Time
<u>John</u>	<u>SO 6116102</u>		

Relinquished by	Received by	Date	Time
<u>FedEx</u>	<u>John</u>	<u>10/18/92</u>	<u>930</u>

Discrepancies Between
Samples Labels and
COC Record? **Y** or N
NOTES:

000003

WESTEN

DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory

Purgeable Aromatics by GC, Method 602

Report Date: 07/07/92 09:16

RFW Batch Number: 9206L689

Client: WSI LE CARPENTER

Work Order: 3600-04-90-0004

Page: 1

	Cust ID:	FB-1	TBLK-1	MW-4	MW-4	MW-4	MW-22
Sample Information	RFW#:	001	002	003	003 MS	003 MSD	004
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

aaa-Trifluorotoluene	107	%	108	%	104	%	110	%	110	%	140	%
=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====
Benzene	1.0	U	1.0	U	1.0	U	101	%	103	%	2.0	
Ethylbenzene	1.0	U	1.0	U	.33		57	* %	72	%		E
Toluene	1.0	U	1.0	U	1.0	U	102	%	104	%	2.7	
Xylene (total)	2.0	U	2.0	U	83		89	%	124	%		E

	Cust ID:	MW-22	MW-25	MW-14	MW-14	MW-15	BLK
Sample Information	RFW#:	004 DL	005	006	006 DL	007	92LV5098-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	200	1.00	1.00	10.0	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L

aaa-Trifluorotoluene	108	%	102	%	110	%	112	%	130	%	112	%
=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====	=====fl=====
Benzene	NA		1.0	U	1.0	U	NA		1.0	U	1.0	U
Ethylbenzene	2500		1.0	U	.34		NA		1.0	U	1.0	U
Toluene	NA		1.0	U	1.0	U	NA		1.0	U	1.0	U
Xylene (total)	20000		2.0	U	E		160		2.0	U	2.0	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
Purgeable Aromatics by GC, Method 602

Report Date: 07/07/92 09:16

RFW Batch Number: 9206L689

Client: WSI LE CARPENTER

Work Order: 3600-04-90-0004

Page: 2

Cust ID: BLK BS BLK BLK BS

Sample Information RFW#: 92LV5098-MB1 92LV5099-MB1 92LV5099-MB1
Matrix: WATER WATER WATER
D.F.: 1.00 1.00 1.00
Units: UG/L UG/L UG/L

aaa-Trifluorotoluene	121	%	114	%	143	*	%
Benzene	110	%	1.0	U	108	%	
Ethylbenzene	118	%	1.0	U	113	%	
Toluene	111	%	1.0	U	107	%	
Xylene (total)	122	%	2.0	U	114	%	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

000006

WESTEN..

GC-VGA

SURROGATE RECOVERY (%) CONTROL LIMITS

COMPOUND	BLANKS, 35,3SD	WATER MS/MSD	SOILS MS/MSD
bromochloromethane	60-130	60-140	40-130
aaa-trifluorotoluene	70-130	60-140	40-130

000007

WESTONSM

GC-VOA

BLANK SPIKE RECOVERIES (method control limits)

(METHOD : 6C2)

COMPOUND	QC limits (ppb)	QC limits (%)
trans-1,2-dichloroethene	12.8 - 27.2	64.0 - 136.0
bromoform	14.7 - 25.3	73.5 - 126.5
1,1,2,2-tetrachloroethane	9.8 - 30.2	49.0 - 151.0
1,2-dichloroethane	14.3 - 25.7	71.5 - 128.5
bromodichloromethane	15.2 - 24.8	76.0 - 124.0
trans-1,3-dichloropropene	12.8 - 27.2	64.0 - 136.0
cis-1,3-dichloropropene	12.8 - 27.2	64.0 - 136.0
benzene	15.4 - 24.6	77.0 - 123.0
toluene	15.5 - 24.5	77.5 - 122.5
ethylbenzene	12.6 - 27.4	63.0 - 137.0
1,1,1-trichloroethane	14.2 - 25.8	71.0 - 129.0

000008

WESTEN

CASE NARRATIVE

000000



ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: WSI LE CARPENTER
RFW #: 9206L689, GC VOLATILE
W.O. #: 3600-04-90

SAMPLES RECEIVED: 06-18-92

NARRATIVE

The set of samples consisted of seven (7) water samples collected on 06-17-92.

The samples were analyzed according to criteria set forth in Method 602 for Selected Volatile Aromatic target compounds on 06-22,23-92.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analyses:

1. One (1) of fifteen (15) surrogate recoveries was outside laboratory control limits. There was no impact on the associated data because of this occurrence in the blank spike.
2. All blank spike recoveries were within method control limits.
3. The following samples required dilution because they contained high levels of target compounds:

<u>Sample ID</u>	<u>Dilution Factor</u>
MW-22	200
MW-14	10

4. One (1) of eight (8) matrix spike recoveries was outside method control limits. The presence of ethylbenzene in sample MW-4 interfered with its quantitation in the matrix spike of that sample.

Margaret M. Beatty for 7/17/92
Jack R. Tuschall, Ph.D.
Laboratory Manager
Lionville Analytical Laboratory

WESTEN

GLOSSARY OF GC VOC DATADATA QUALIFIERS

- U = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J = Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero; for example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I = Interference.
- N = Not Confirmed.
- Y = Confirmed Positive.

ABBREVIATIONS

- BS = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD = Indicates blank spike duplicate.
- MS = Indicates matrix spike.
- MSD = Indicates matrix spike duplicate.
- DL = Indicates that surrogate recoveries were not obtained because the extract had to be diluted for analysis.
- NA = Not applicable.
- DF = Dilution factor.
- NR = Not required.

0000011

WESTEN

SAMPLE DATA
in increasing RFW# order

0000012 CLIENT SAMPLE NO.

GC VOLATILES SHEET

FB-1

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 9206L689-001Sample wt/vol: 5.00 (g/mL) ML Lab File ID: FM236064Level: (low/med) LOW Date Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----Benzene	1.0	U
100-41-4-----Ethylbenzene	1.0	U
108-88-3-----Toluene	1.0	U
1330-20-7-----Xylene (total)	2.0	U

12/88 Rev.

9206L689-001

SAMPLE NO. : 06229220 . 05

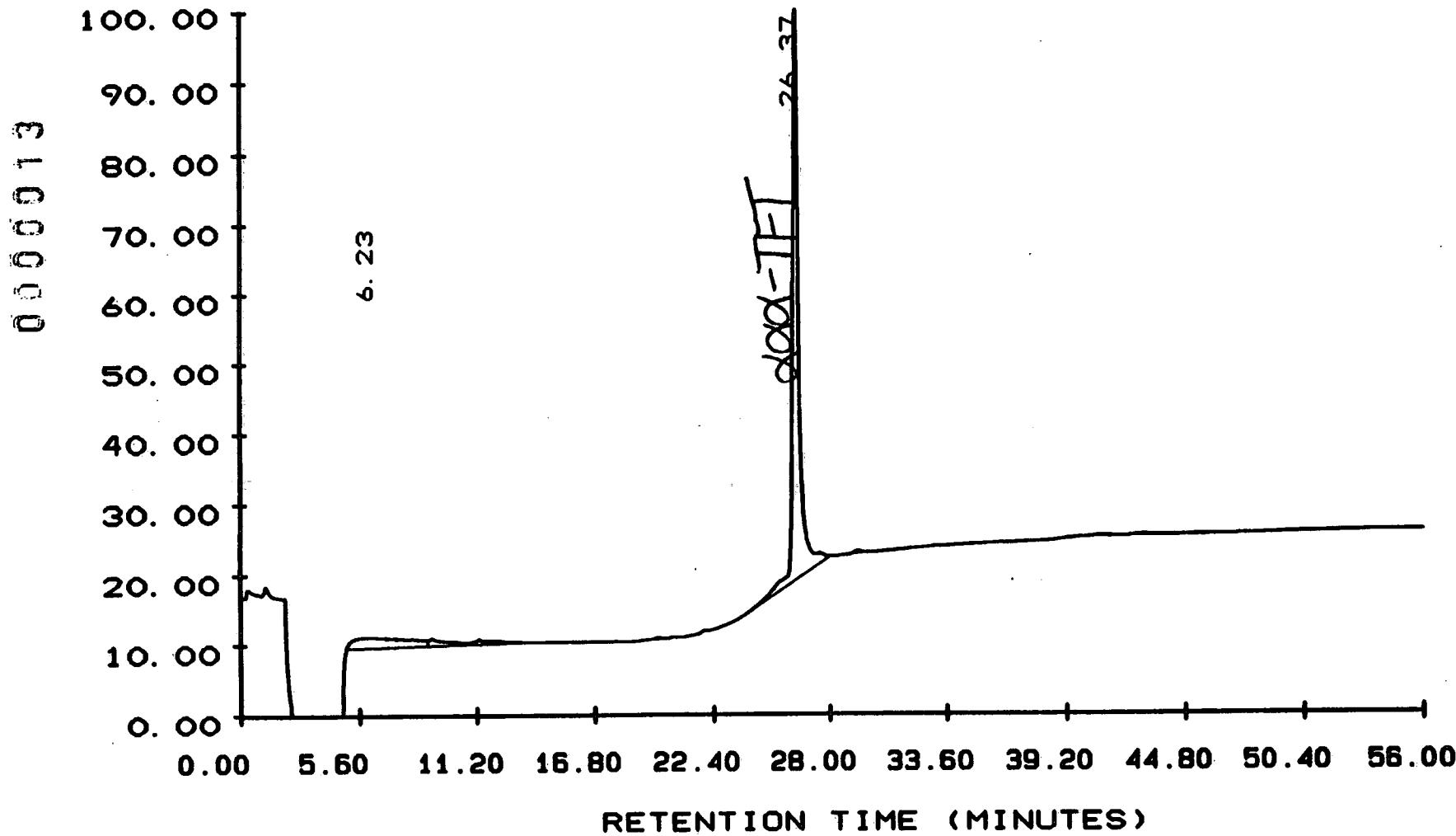
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/22/92 13:00:20

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 13961.
Y MINIMUM: 5720.

START TIME: 0.00
END TIME: 56.00

000014

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:07:45

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .05
 TEST : 0602X
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: FB-1
 CLIENT: WSI LE CARPENTER
 LAB ID: 9206L689-001
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:FO SEQ NUMBER:005
 DATE-TIME INJECTED : 06/22/92 13:00:20
 DATE-TIME PROCESSED : 07/01/92 10:07:45
 COLUMN TYPE: CARBOPACK B, 1%SP1000
 RAW FILE: RAW1:FM236064 P/D
 SAMPLE VOL: 5.0 ML
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR COMPONENT #	HEIGHT		
					NAME	CONC	PPB
001	229530	1202	T	6.229			
				19.573 M TRICHLOROETHENE			
				20.280 M BENZENE			
				25.507 M TETRACHLOROETHENE			
005	1450829	66660	V	26.371 M aaa-TRIFLUOROTOLUENE	21.313	✓	
				27.468 M TOLUENE			
				29.199 M CHLOROBENZENE			
				32.866 M ETHYLBENZENE			
				40.807 M M - XYLENE			
				42.629 M O - XYLENE			
				42.956 M P - XYLENE			
				49.805 M 1,3-DICHLOROBENZENE			
				51.623 M 1,2-DICHLOROBENZENE			
				53.181 M 1,4-DICHLOROBENZENE			

110190
A29

0000015 CLIENT SAMPLE NO.

GC VOLATILES SHEET

TBLK-1

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 9206L689-002Sample wt/vol: 5.00 (g/mL) ML Lab File ID: FM236043Level: (low/med) LOW Date Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
108-88-3-----	Toluene	1.0	U
1330-20-7-----	Xylene (total)	2.0	U

12/88 Rev.

9206L689-002

SAMPLE NO. : 06229220 .04

TEST NO. :

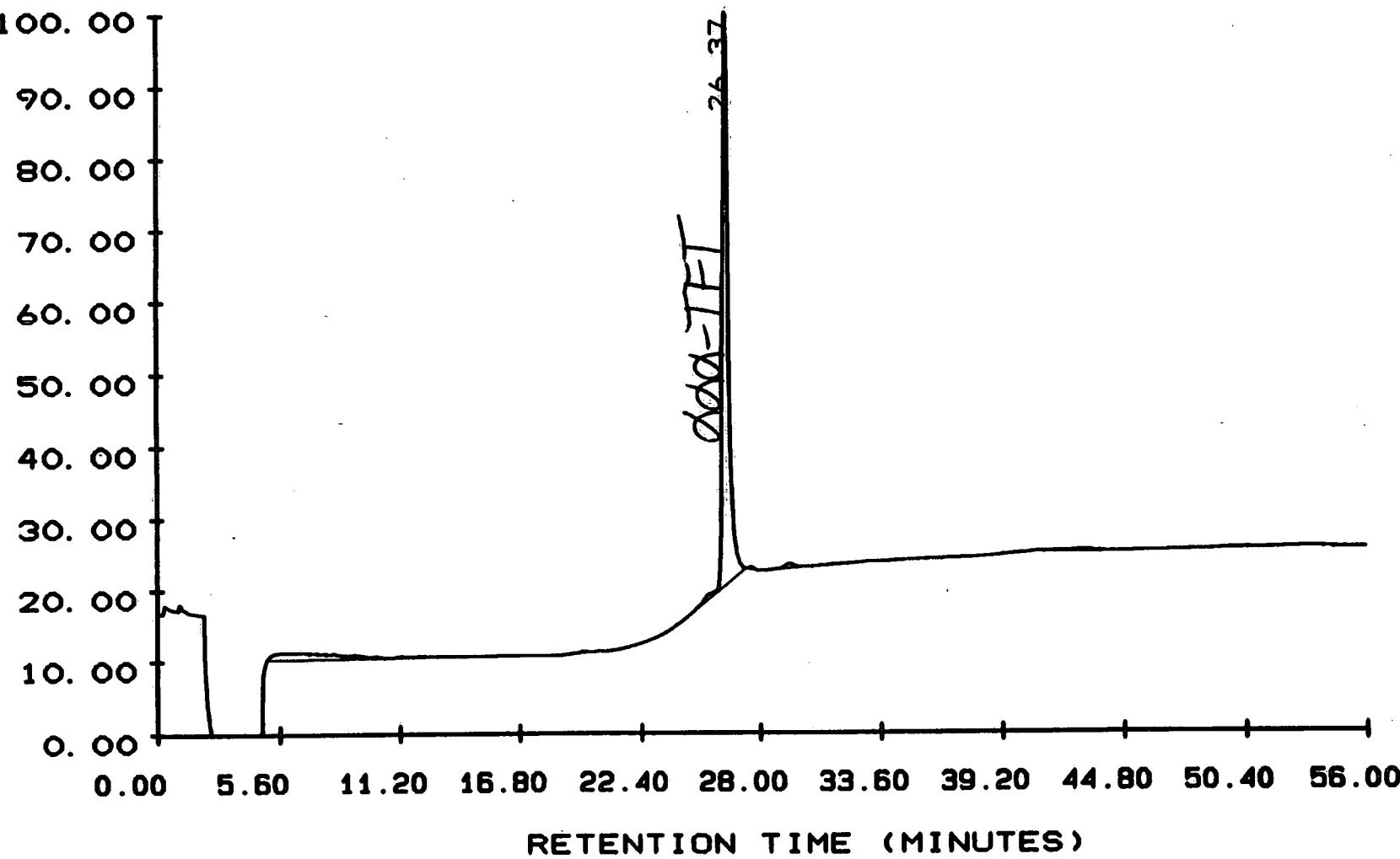
METHOD NO. : 20 / 20

INSTRUMENT: 20

DATE TIME: 06/22/92 11:56:26

PAGE NO. : 01

0000016



Y MAXIMUM: 14201.

Y MINIMUM: 5680.

START TIME: 0.00

END TIME: 56.00

0000017

Roy F. Weston, Inc. - Lionville Laboratory

06/22/92 12:52:48

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .04

INST:20 VIAL:F0 SEQ NUMBER:004

TEST : 0602X

DATE-TIME INJECTED : 06/22/92 11:56:26

COLLECTION TIME : 55.90

DATE-TIME PROCESSED : 06/22/92 12:52:48

METHOD: 20 / 20

REV #: 00115 ANALYST: MARIA

SAMP RATE: 0.78

CLIENT ID: TBLK-1

SAMPLE VOL: 5.0 ML

CLIENT: WSI LE CARPENTER

COLUMN TYPE: CARBOPACK B,

LAB ID: 9206L689-002

RAW FILE: RAW1:FM236043

SAMPLE WT :

% MOISTURE :

10% SP/10⁶
PID

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES #	GR COMPONENT NAME	HEIGHT	CONC PPB
		19.573 M		TRICHLOROETHENE		
		20.280 M		BENZENE		
		25.507 M		TETRACHLOROETHENE		
004	1325399	67762	V	26.367 M aaa-TRIFLUOROTOLUENE	21.675 ✓	
		27.468 M		TOLUENE		
		29.199 M		CHLOROBENZENE		
		32.866 M		ETHYLBENZENE		
		40.807 M	M	- XYLENE		
		42.629 M	O	- XYLENE		
		42.956 M	P	- XYLENE		
		49.805 M		1,3-DICHLOROBENZENE		
		51.623 M		1,2-DICHLOROBENZENE		
		53.181 M		1,4-DICHLOROBENZENE		

7/10/92
J.W.

0000018 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-4

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-003Sample wt/vol: 5.00 (g/mL) MLLab File ID: FM236168Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----Benzene	1.0	U
100-41-4-----Ethylbenzene	33	
108-88-3-----Toluene	1.0	U
1330-20-7-----Xylene (total)	83	

12/88 Rev.

9206L689-003

SAMPLE NO. : 06229220 .09

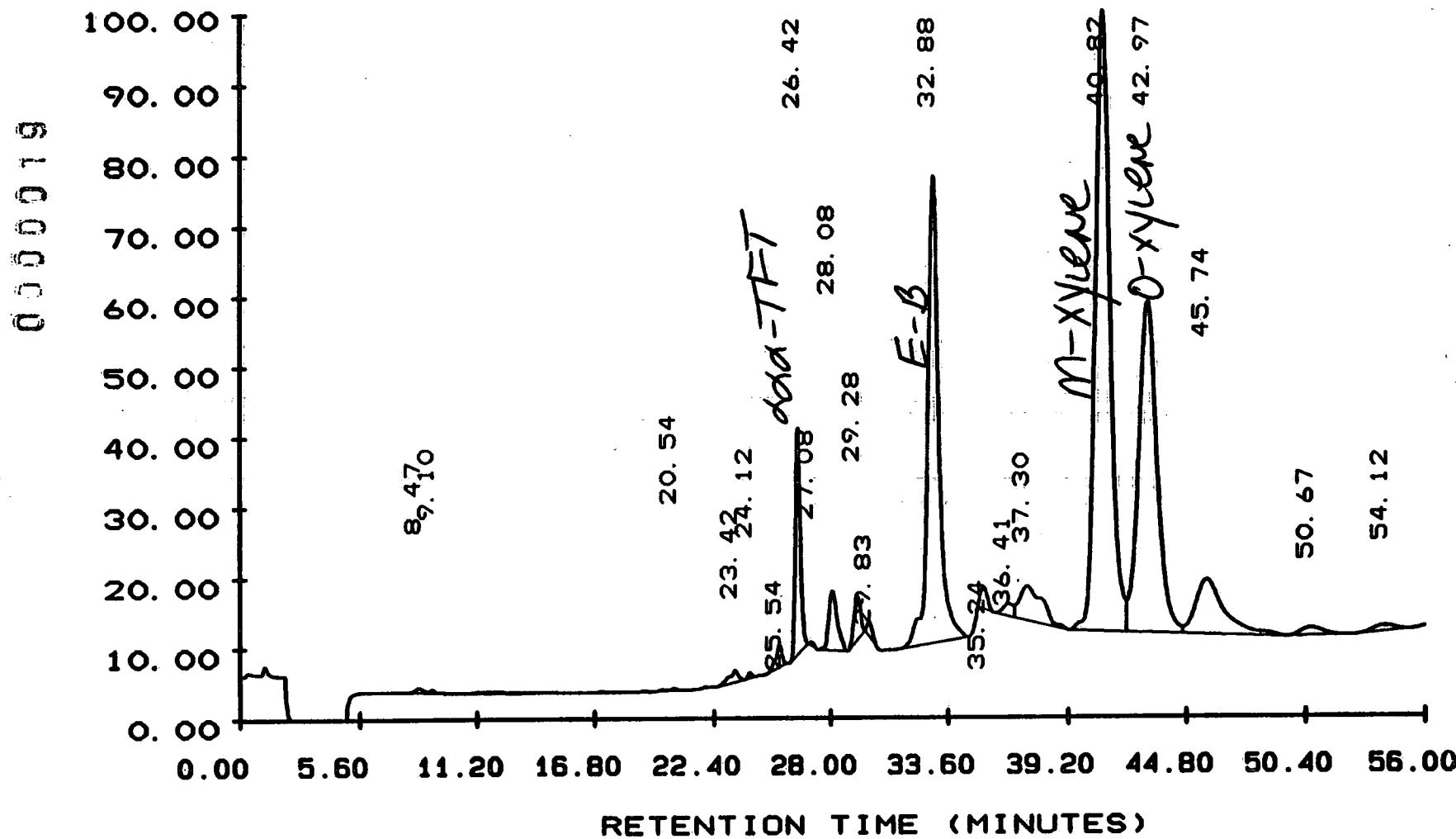
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/22/92 17:47:13

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 26126.

START TIME: 0.00

Y MINIMUM: 5852.

END TIME: 56.00

000020

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:09:30

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .09
 TEST : 0602X
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: MW-4
 CLIENT: WSI LE CARPENTER
 LAB ID: 9206L689-003
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:FO SEQ NUMBER:009
 DATE-TIME INJECTED : 06/22/92 17:47:13
 DATE-TIME PROCESSED : 07/01/92 10:09:30
 SAMPLE VOL: 5.0 ML
 COLUMN TYPE: CARBOPACK B,
 RAW FILE: RAW1:FM236168
 DILUTION FACTOR : 1.0000

1/0 SP/080
PID

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES #	GR COMPONENT NAME	HEIGHT CONC PPB
001	46335	1393	T 8.468	19.573 M TRICHLOROETHENE 20.280 M BENZENE	
010	108299	3322	V 23.417		
011	21165	1574	V 24.123		
012	135322	6337	V 25.543 M TETRACHLOROETHENE	1.480	
013	1127843	64958	V 26.419 M aaa-TRIFLUOROTOLUENE	20.755 ✓	≤ DL
				27.468 M TOLUENE	
015	498211	17142	V 28.076		
016	268106	12308	V 29.277 M CHLOROBENZENE	2.086	
017	72006	4090	V 29.828		
018	4957761	134515	32.884 M ETHYLBENZENE	33.326 ✓	
019	140648	6309	V 35.244		
020	120290	3562	T 36.409		
021	743260	9957	V 37.301		
022	8697127	178384	T 40.821 M M - XYLENE	53.057	{ 83.262
			42.629 M O - XYLENE		
023	5892679	95214	T 42.969 M P - XYLENE	30.205	
024	1487463	15839	V 45.745		
			49.805 M 1,3-DICHLOROBENZENE		
025	158858	2254	V 50.674		
			51.623 M 1,2-DICHLOROBENZENE		
			53.181 M 1,4-DICHLOROBENZENE		
026	125677	1728	54.123		

7/10/92
P41

0000021 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-22

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-004Sample wt/vol: 5.00 (g/mL) MLLab File ID: FM236210Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

71-43-2-----Benzene	2.0	E
100-41-4-----Ethylbenzene		
108-88-3-----Toluene	2.7	E
1330-20-7-----Xylene (total)		

12/88 Rev.

9206L689-004

SAMPLE NO. : 06229220

TEST NO. :

METHOD NO. : 20 / 20

100. 00

0 0 0 0 2 2

90. 00

80. 00

70. 00

60. 00

50. 00

40. 00

30. 00

20. 00

10. 00

0. 00

6. 36

9. 10
10. 16

13. 85

17. 05
Benzene

18. 48

22. 18

23. 24

24. 10

25. 47

TFF

26. 74

27. 04

28. 04

29. 62

E-B

30. 74

32. 42

34. 34

36. 14

38. 13

36. 76

p-Xylene

42. 89

45. 15

47. 70

49. 88

53. 12

. 10

INSTRUMENT: 20

DATE TIME: 06/22/92 19:01:42

PAGE NO. : 01

RETENTION TIME (MINUTES)

Y MAXIMUM: 97365.

Y MINIMUM: 5881.

START TIME: 0. 00

END TIME: 56. 00

000023

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:10:04

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .10

TEST : 0602X

COLLECTION TIME : 55.90

METHOD: 20 / 20

REV #: 00116

ANALYST: MARIA

CLIENT ID: MW-22

CLIENT: WSI LE CARPENTER

LAB ID: 9206L689-004

SAMPLE WT :

% MOISTURE :

INST:20 VIAL:F0 SEQ NUMBER:010

DATE-TIME INJECTED : 06/22/92 19:01:42

DATE-TIME PROCESSED : 07/01/92 10:10:04

SAMP RATE: 0.78

SAMPLE VOL: 5.0 ML

COLUMN TYPE: CARBOPACK B,

RAW FILE: RAW1:FM236210

DILUTION FACTOR : 1.0000

1% SP102C

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR COMPONENT #	HEIGHT	
					NAME	CONC PPB
001	909901	4506	T 6.357			
002	127672	3630	T 9.099			
003	1414939	11694	T 10.156			
004	140582	2240		13.845		
005	132836	8440	V 17.050			
				19.573 M TRICHLOROETHENE		
009	231552	10778	V 20.461 M BENZENE			2.012 ✓
011	496294	19716	V 23.245			
013	385515	14971	V 25.471 M TETRACHLOROETHENE			3.511
014	1300883	87247	V 26.356 M aaa-TRIFLUOROTOLUENE			28.072
015	71542	4179	V 27.042			
016	229402	17650	V 27.457 M TOLUENE			2.665
017	314202	20795	V 27.744			
018	1994937	80810	V 28.856 M CHLOROBENZENE			14.060
019	409261	25436	V 29.620			
020	167348	9149	V 30.738			
021	58819040	867549	V 32.124			
				32.866 M ETHYLBENZENE E		
022	2628013	88383		34.338		
023	4473471	76806	T 36.141			
024	1573085	54238	V 36.764			
025	534404	20036	T 38.130			
				40.807 M M - XYLENE		
				42.629 M O - XYLENE		
026	243690496	861239	T 42.894 M P - XYLENE			274.031 E
027	14028263	140379	T 45.149			
028	1766413	29718	V 47.697			
029	1932275	30244	V 49.885 M 1,3-DICHLOROBENZENE			15.369
				51.623 M 1,2-DICHLOROBENZENE		
030	10966093	154779	V 53.124 M 1,4-DICHLOROBENZENE			101.640

7/10/92
BSW

0000024 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-22DL

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-004 DLSample wt/vol: 5.00 (g/mL) MLLab File ID: FN236681Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/23/92Column: (pack/cap) PACKDilution Factor: 200

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	NA	
100-41-4-----	Ethylbenzene	2500	
108-88-3-----	Toluene	NA	
1330-20-7-----	Xylene (total)	20000	

12/88 Rev.

9206L689-004D1

SAMPLE NO. : 06239220 . 11

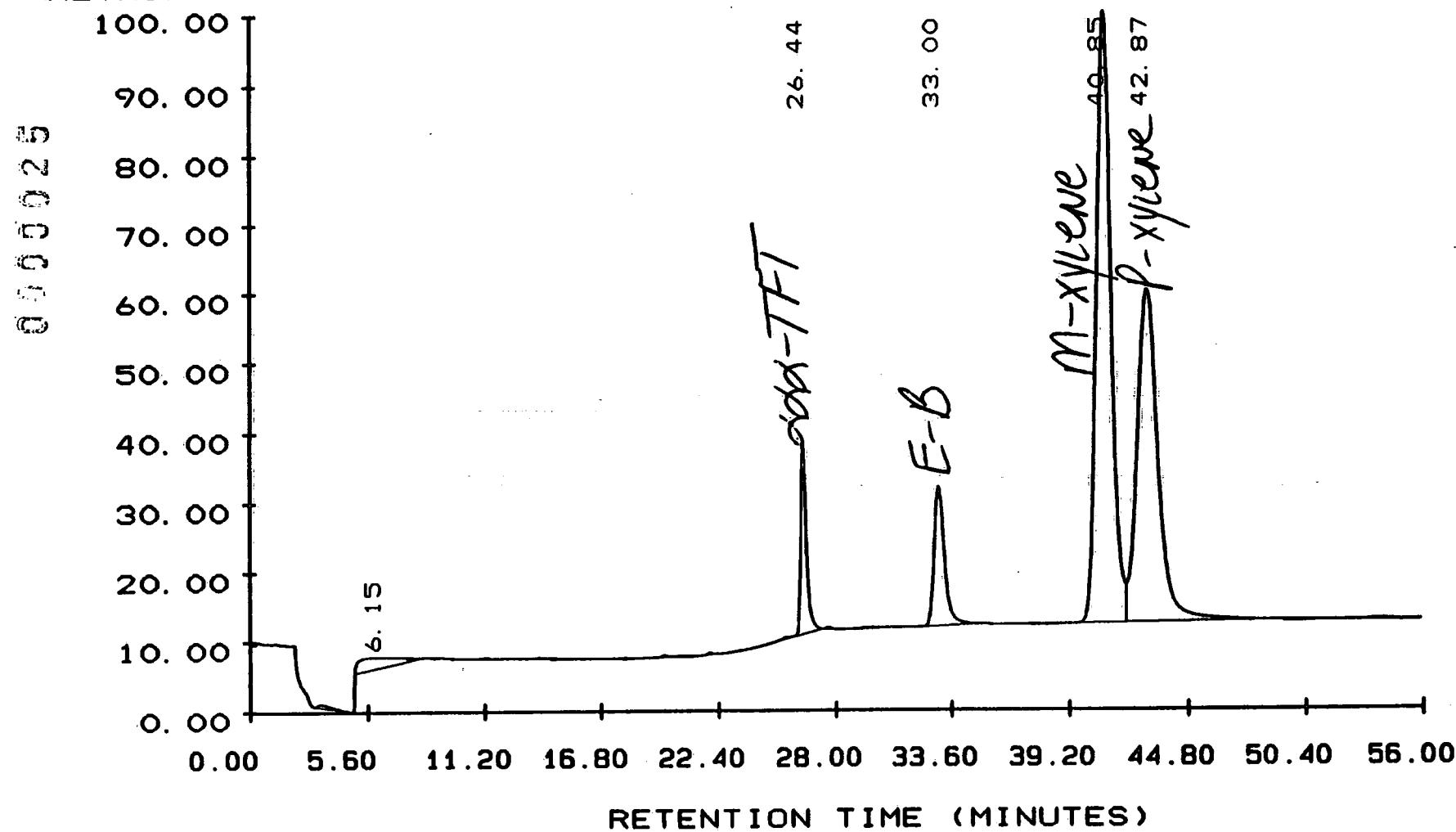
TEST NO. :

METHOD NO. : 20 / 20

INSTRUMENT: 20

DATE TIME: 06/23/92 19:38:20

PAGE NO. : 01



Y MAXIMUM: 29332.

Y MINIMUM: 4749.

START TIME: 0.00

END TIME: 56.00

000025

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:27:48

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06239220 .11

INST:20 VIAL:FO SEQ NUMBER:011

TEST : 0602X

DATE-TIME INJECTED : 06/23/92 19:38:20

COLLECTION TIME : 55.90

DATE-TIME PROCESSED : 06/24/92 09:27:48

METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID: MW-22

SAMPLE VOL: 5.0 ML

CLIENT: WSI LE CARPENTER

COLUMN TYPE: CARBOPACK B, 1% SP1020

LAB ID: 9206L689-004

RAW FILE: RAW1:FN236681 P1D

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR :200.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES #	GR COMPONENT NAME	HEIGHT CONC PPB
002	517759	3684	6.149	19.573 M TRICHLOROETHENE 20.280 M BENZENE 25.507 M TETRACHLOROETHENE	
008	1324667	67337	V 26.437 M aaa-TRIFLUOROTOLUENE 27.468 M TOLUENE 29.199 M CHLOROBENZENE	4.307E+3	$\frac{1}{200} = 21.54$
011	1710785	49213	32.996 M ETHYLBENZENE	2.458E+3	✓
013	10358733	215744	T 40.846 M M - XYLENE 42.629 M O - XYLENE	1.283E+4	$\left. \begin{array}{l} \\ 20277 \end{array} \right\}$
014	8032769	117302	42.870 M P - XYLENE 49.805 M 1,3-DICHLOROBENZENE 51.623 M 1,2-DICHLOROBENZENE 53.181 M 1,4-DICHLOROBENZENE	7.447E+3	

7/10/92 ✓

0000027 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-25

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 9206L689-005Sample wt/vol: 5.00 (g/mL) ML Lab File ID: FM236084Level: (low/med) LOW Date Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
108-88-3-----	Toluene	1.0	U
1330-20-7-----	Xylene (total)	2.0	U

12/88 Rev.

9206L689-005

SAMPLE NO. : 06229220 .06

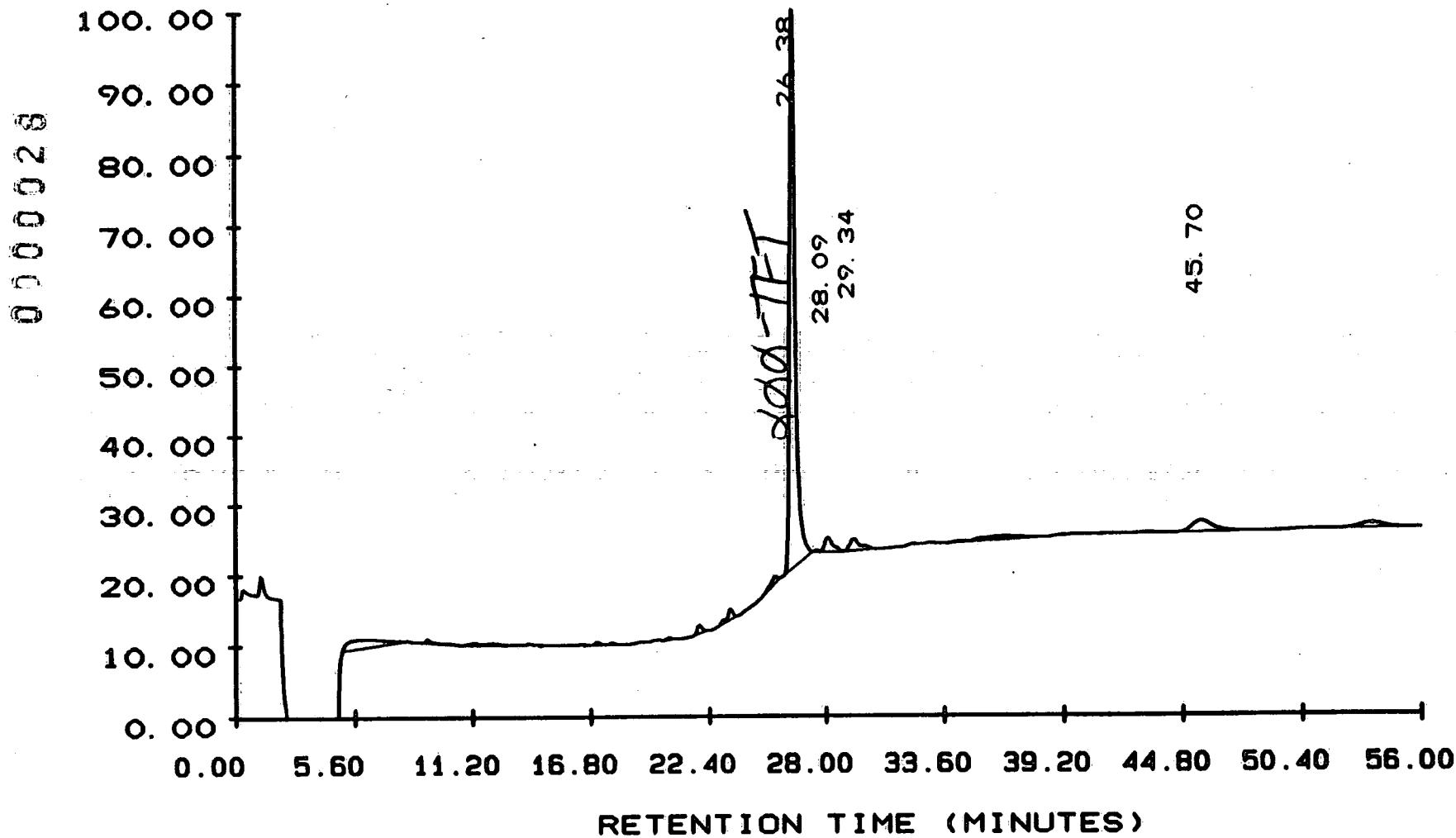
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/22/92 14:04:20

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 13819.

START TIME: 0.00

Y MINIMUM: 5752.

END TIME: 56.00

0000029

Roy F. Weston, Inc. - Lionville Laboratory

06/22/92 15:04:21

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .06
 TEST : 0602X
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00115 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: MW-25 SAMPLE VOL: 5.0 ML
 CLIENT: WSI LE CARPENTER COLUMN TYPE: CARBOPACK B,
 LAB ID: 9206L689-005 RAW FILE: RAW1:FM236084
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

1% SP1000
PID

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES #	GR COMPONENT NAME	HEIGHT	
					CONC	PPB
				19.573 M TRICHLOROETHENE		
				20.280 M BENZENE		
				25.507 M TETRACHLOROETHENE		
010	1222797	63909	V	26.384 M aaa-TRIFLUOROTOLUENE	20.410	✓
				27.468 M TOLUENE		
011	46793	1608	V	28.090		
012	46471	1322		29.335 M CHLOROBENZENE	0.166	
				32.866 M ETHYLBENZENE		
				40.807 M M - XYLENE		
				42.629 M O - XYLENE		
				42.956 M P - XYLENE		
015	92160	1290		45.696		
				49.805 M 1,3-DICHLOROBENZENE		
				51.623 M 1,2-DICHLOROBENZENE		
				53.181 M 1,4-DICHLOROBENZENE		

7/10/92 ALW

GC VOLATILES SHEET

0000030 CLIENT SAMPLE NO.

MW-14

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-006Sample wt/vol: 5.00 (g/mL) MLLab File ID: FM236107Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	1.0	U
100-41-4-----	Ethylbenzene	34	
108-88-3-----	Toluene	1.0	U
1330-20-7-----	Xylene (total)		E

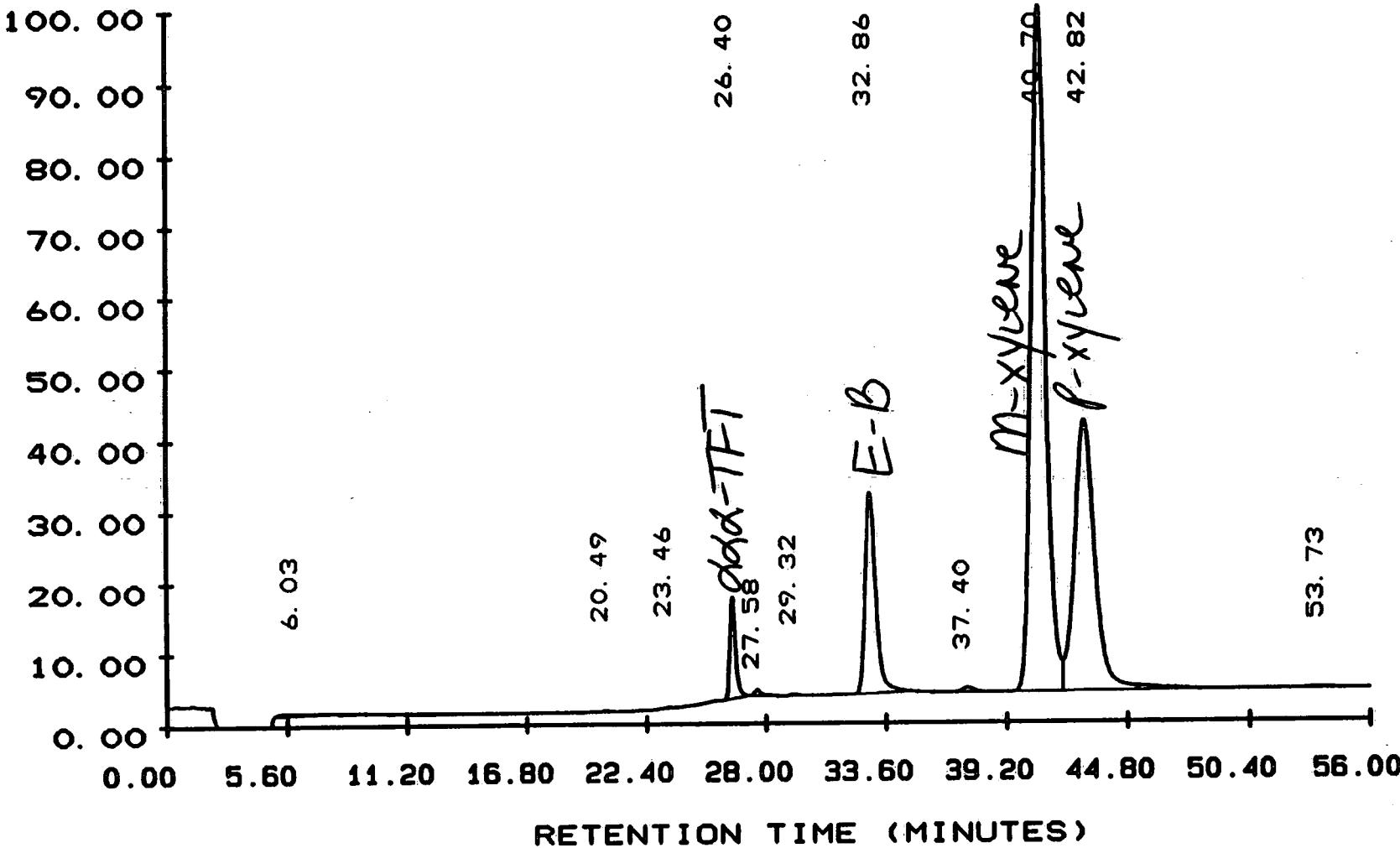
12/88 Rev.

9206L689-006

SAMPLE NO. : 06229220 .07
TEST NO. :
METHOD NO. : 20 / 20

INSTRUMENT: 20
DATE TIME: 06/22/92 15:18:26
PAGE NO. : 01

0000031



Y MAXIMUM: 54068.
Y MINIMUM: 5765.

START TIME: 0.00
END TIME: 56.00

0000032

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:08:34

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .07

INST:20 VIAL:F0 SEQ NUMBER:007

TEST : 0602X

DATE-TIME INJECTED : 06/22/92 15:18:26

COLLECTION TIME : 56.01

DATE-TIME PROCESSED : 07/01/92 10:08:34

METHOD: 20 / 20 REV #: 00116

ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID: MW-14

SAMPLE VOL: 5.0 ML

CLIENT: WSI LE CARPENTER

COLUMN TYPE: CARBOPACK B,

LAB ID: 9206L689-006

RAW FILE: RAW1:FM236107

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

1% SP10V0
PID

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR COMPONENT #	NAME	HEIGHT
						CONC PPB
001	163406	1264	6.027			
				19.573 M	TRICHLOROETHENE	
				20.280 M	BENZENE	
				25.507 M	TETRACHLOROETHENE	
009	1277641	68546	V 26.399 M	aaa-	TRIFLUOROTOLUENE	21.933
010	107366	4226	V 27.576 M		TOLUENE	0.823
011	37474	1263	V 29.325 M		CHLOROBENZENE	0.156
012	4646145	136123	32.861 M		ETHYLBENZENE	33.723
013	122950	3065	V 37.401			
014	21861728	462774	T 40.699 M	M -	XYLENE	137.635
			42.629 M	O -	XYLENE	
			42.817 M	P -	XYLENE	
015	12167475	182873	49.805 M	1,3-DICHLOROBENZENE		58.107
			51.623 M	1,2-DICHLOROBENZENE		
			53.181 M	1,4-DICHLOROBENZENE		

11019 PMF

0000033 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-14DL

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-006 DLSample wt/vol: 5.00 (g/mL) MLLab File ID: FN236504Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/23/92Column: (pack/cap) PACKDilution Factor: 10.0

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----Benzene	NA	
100-41-4-----Ethylbenzene	NA	
108-88-3-----Toluene	NA	
1330-20-7-----Xylene (total)	160	

12/88 Rev.

9206L689-006D1

SAMPLE NO. : 06239220 . 04

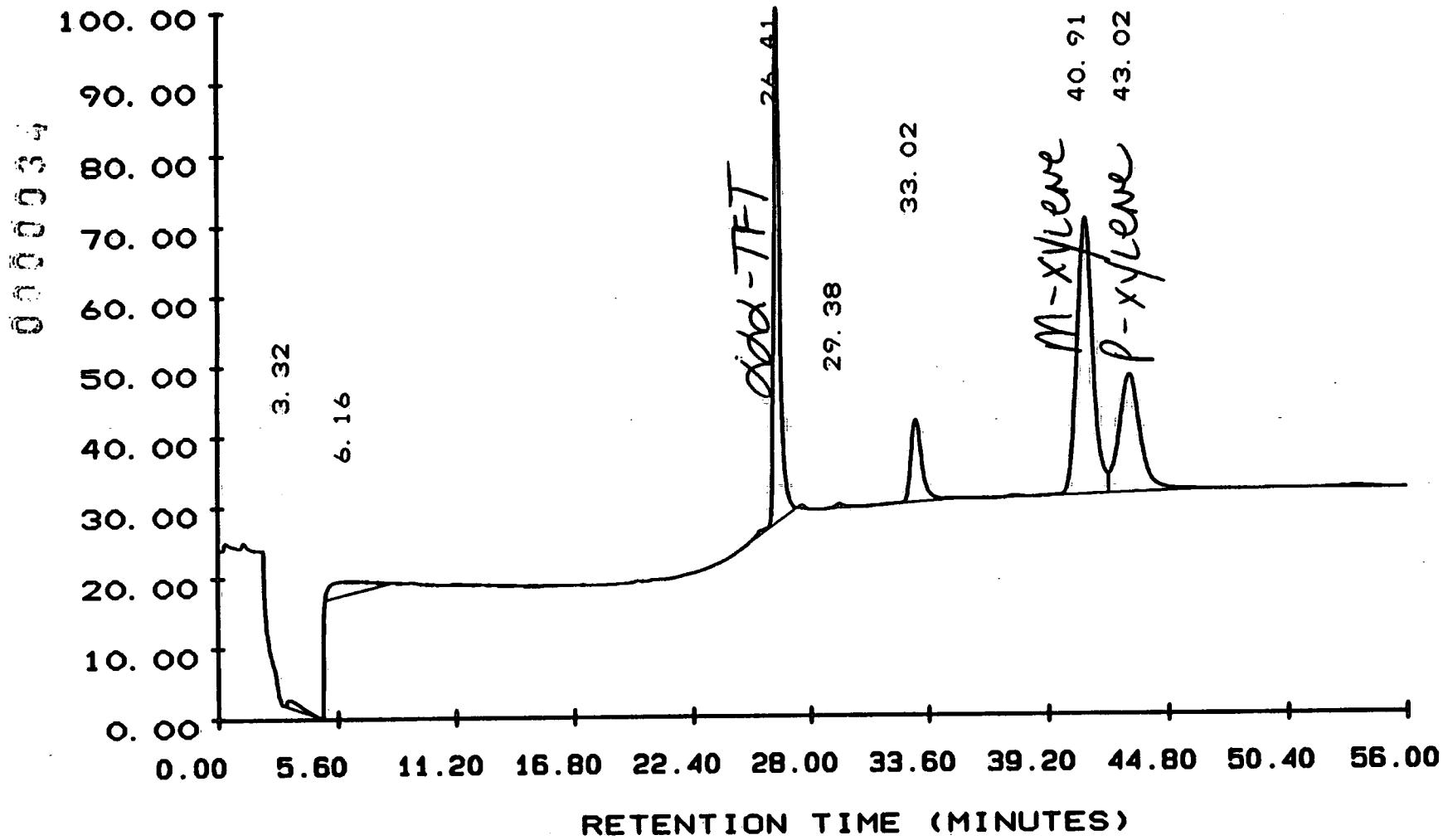
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/23/92 11:27:49

METHOD NO. : 20 / 20

PAGE NO. : 01



0000035

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:25:04

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06239220 .04
 TEST : 0602X
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: MW-14
 CLIENT: WSI LE CARPENTER
 LAB ID: 9206L689-006
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:FO SEQ NUMBER:004
 DATE-TIME INJECTED : 06/23/92 11:27:49
 DATE-TIME PROCESSED : 06/24/92 09:25:04
 SAMPLE VOL: 5.0 ML 1% SP1020
 COLUMN TYPE: CARBOPACK B, PID
 RAW FILE: RAW1:FN236504
 DILUTION FACTOR : 10.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
002	233336	1711		6.165		
				19.573	TRICHLOROETHENE	
				20.280	BENZENE	
				25.507	TETRACHLOROETHENE	
004	1372673	69989	V	26.406	aaa-TRIFLUOROTOLUENE	224.064/10 = 22.406
				27.468	TOLUENE	
				29.199	CHLOROBENZENE	
007	407111	11234		33.020	ETHYLBENZENE	29.251
009	1920781	37881	T	40.908	M - XYLENE	112.717
				42.629	O - XYLENE	
010	1117275	16176		43.018	P - XYLENE	50.471
				49.805	1,3-DICHLOROBENZENE	
				51.623	1,2-DICHLOROBENZENE	
				53.181	1,4-DICHLOROBENZENE	

All compounds were quantitated using method 20
except those which are labeled.

110192 ✓

0000036 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-15

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-007Sample wt/vol: 5.00 (g/mL) MLLab File ID: FM236126Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
108-88-3-----	Toluene	1.0	U
1330-20-7-----	Xylene (total)	2.0	U

12/88 Rev.

9206L689-007

SAMPLE NO. : 06229220

.08

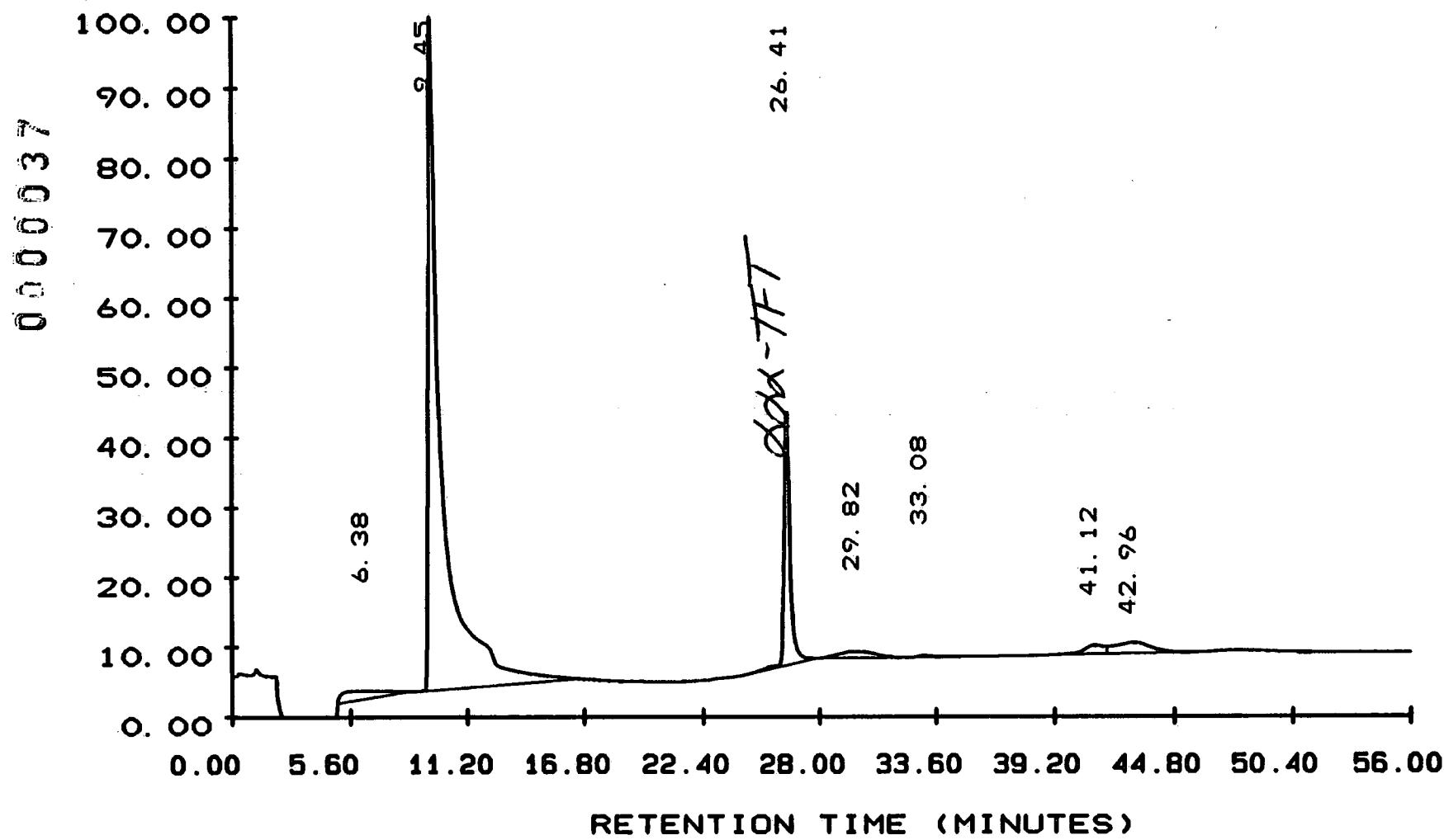
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/22/92 16:32:48

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 28276.

START TIME: 0.00

Y MINIMUM: 5796.

END TIME: 56.00

0000038

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:09:12

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .08
 TEST : 0602X
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: MW-15 SAMPLE VOL: 5.0 ML
 CLIENT: WSI LE CARPENTER COLUMN TYPE: CARBOPACK B,
 LAB ID: 9206L689-007 RAW FILE: RAW1:FM236126
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

10% SP1000
PID

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES #	GR COMPONENT NAME	HEIGHT	
					CONC	PPB
001	389037	2450		6.379		
002	9931879	216412		9.447		
				19.573 M TRICHLOROETHENE		
				20.280 M BENZENE		
				25.507 M TETRACHLOROETHENE		
003	1658637	81144	V	26.411 M aaa-TRIFLUOROTOLUENE	26.069	
				27.468 M TOLUENE		
				29.199 M CHLOROBENZENE		
004	263091	2106	V	29.824		
				32.866 M ETHYLBENZENE		
006	195285	2923	T	41.120 M M - XYLENE	0.875	} 1.899 DL
				42.629 M O - XYLENE		
007	417971	3536		42.955 M P - XYLENE	1.024	
				49.805 M 1,3-DICHLOROBENZENE		
				51.623 M 1,2-DICHLOROBENZENE		
				53.181 M 1,4-DICHLOROBENZENE		

000039

WESTEN

STANDARD DATA

0000040

METHOD NUMBER : 20A
 METHOD TITLE : 5.0 ML, CARBOPACK
 USER PROGRAMS : USER:MULTIV10

ORDER OF FIT : 1
 NUMBER OF LEVELS : 10
 REPORT PARAMETERS :
 NO.OF TIMES MODIFIED : 14
 NO.OF TIMES CALIBRAT : 50

#	COMPONENT NAME	LEVEL A LEVEL F	LEVEL B LEVEL G	LEVEL C LEVEL H	LEVEL D LEVEL I	LEVEL E LEVEL J
1	TRICHLOROETHENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
2	TETRACHLOROETHENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
3	CHLOROBENZENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
4	P - XYLENE	0.5175 20.7000	1.0350 41.4000	2.0700 51.7500	5.1750 62.1000	10.3500 82.8000
5	1,3-DICHLOROBENZENE	0.5025 20.1000	1.0050 40.2000	2.0100 50.2500	5.0250 60.3000	10.0500 80.4000
6	1,4-DICHLOROBENZENE	0.5075 20.3000	1.0150 40.6000	2.0300 50.7500	5.0750 60.9000	10.1500 81.2000

0000041

MULTILEVEL CALIBRATION METHOD 20A
1ST ORDER EXTERNAL STANDARD

06/10/92 10:37:44

CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
A	06089220.11		
B	06089220.12		
C	06099220.17		
D	06099220.18		
E	06099220.04		
F	06089220.07		
G	06089220.08		
H			
I	06089220.10		
J			

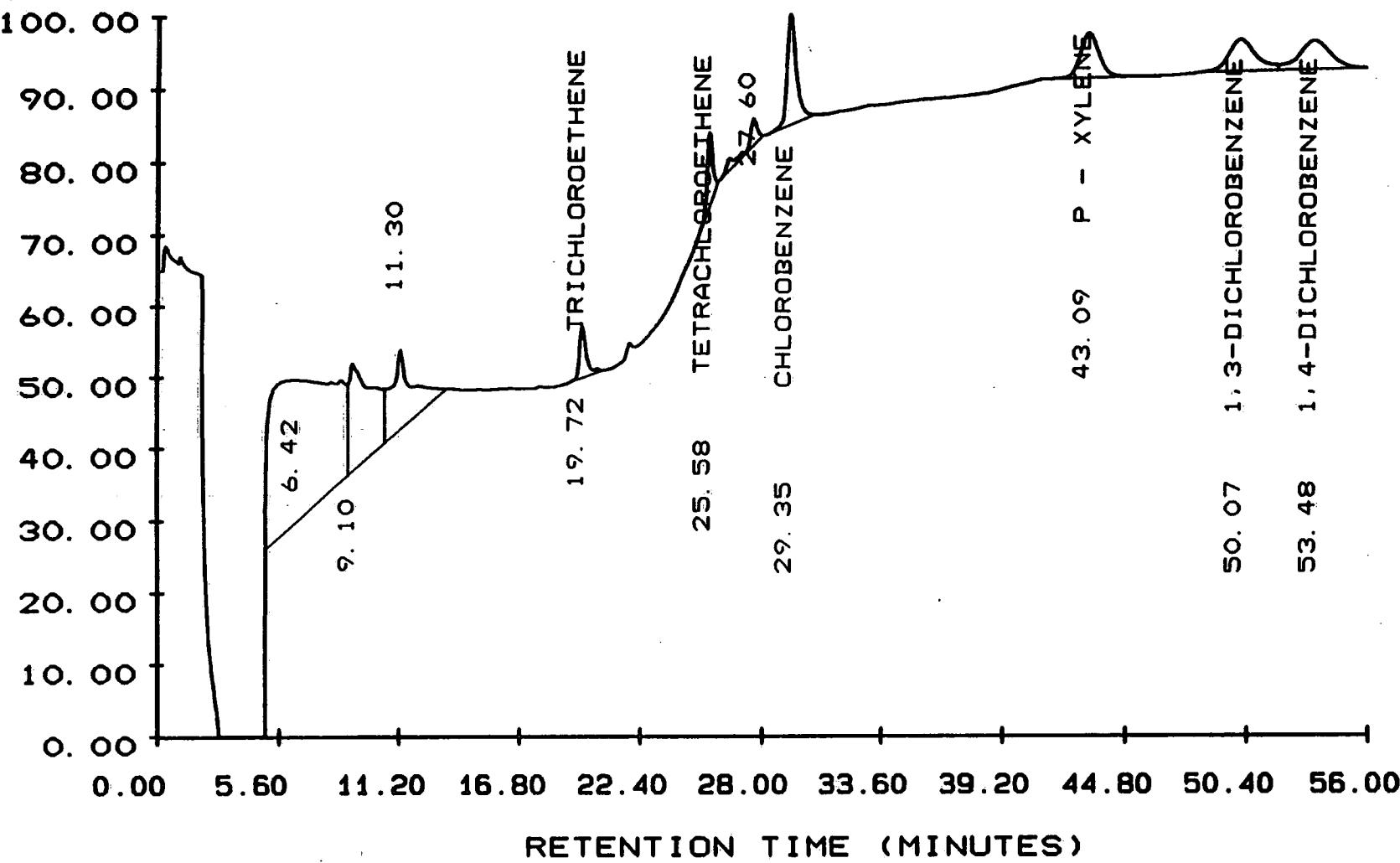
PEAK NAME	a	COEFFICIENTS			SD OF FIT	CORR COEFF
		b	c	d		
TRICHLOROETHENE		2.687E-04	1.569E-01		0.23318	0.99990
TETRACHLOROETHENE		2.352E-04	-1.037E-02		0.22222	0.99991
CHLOROBENZENE		1.748E-04	-6.513E-02		0.20058	0.99992
P - XYLENE		3.183E-04	-1.017E-01		0.53987	0.99951
1,3-DICHLOROBENZENE		5.065E-04	5.003E-02		0.47470	0.99959
1,4-DICHLOROBENZENE		6.581E-04	-2.204E-01		0.47004	0.99961

STD A O. 5

SAMPLE NO. : 06089220
TEST NO. :
METHOD NO. : 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/08/92 20:16:14
PAGE NO. : 01

0000042



RETENTION TIME (MINUTES)

Y MAXIMUM: 8169.
Y MINIMUM: 5128.

START TIME: 0.00
END TIME: 56.00

0000043

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:26:48

MULTILEVEL EXTERNAL STANDARD

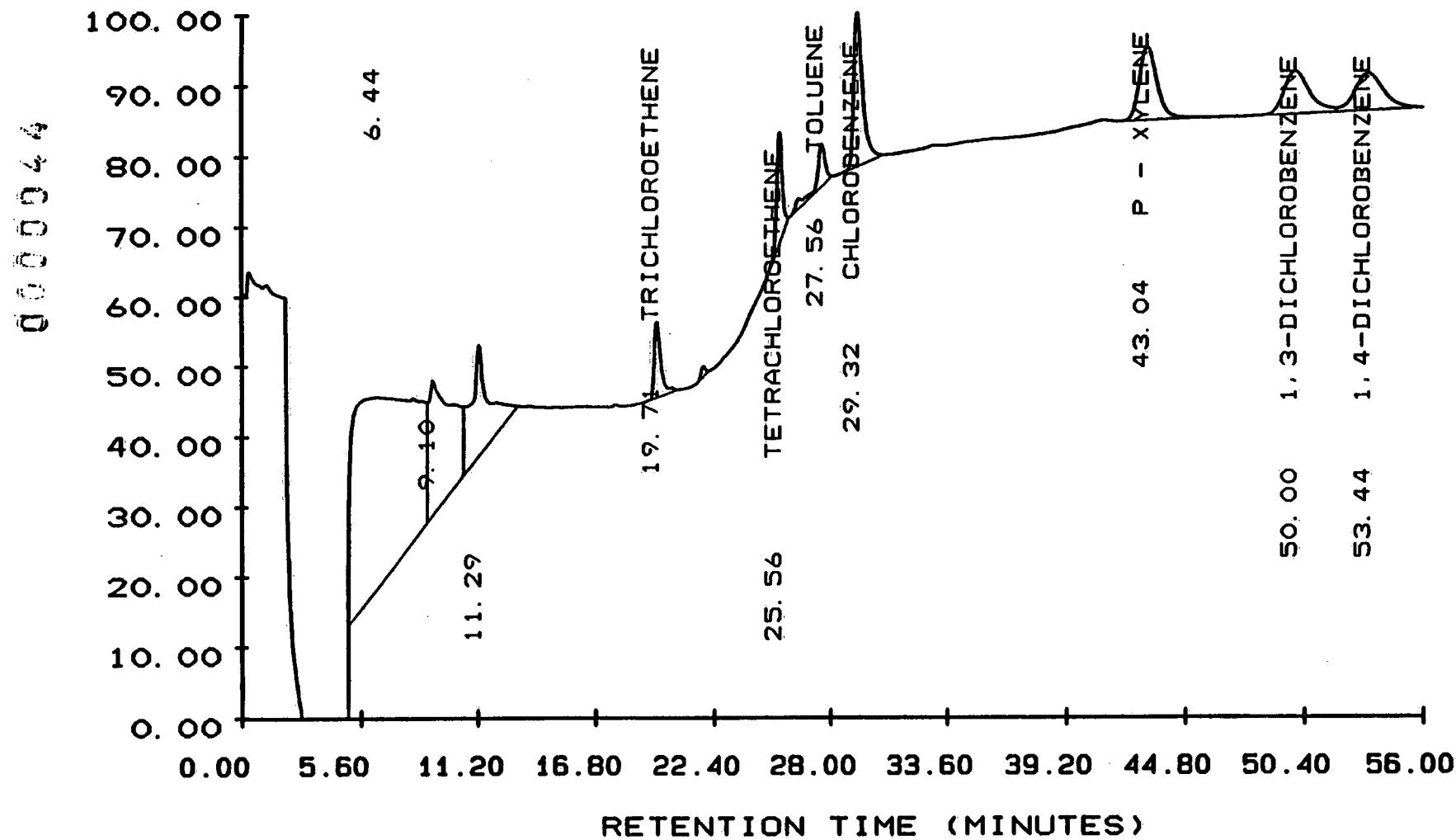
SAMPLE: 06089220 .11
 TEST :
 COLLECTION TIME : 55.90
 METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD A 0.5
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:F0 SEQ NUMBER:011
 DATE-TIME INJECTED : 06/08/92 20:16:14
 DATE-TIME PROCESSED : 06/10/92 13:26:48
 SAMPLE VOL: 5.0 ML
 COLUMN TYPE: CARBOPACK B,
 RAW FILE: RAW1:F8230703
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT	CONC
						CONC	
PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	PPB	PPB
001	1254323	6030	T	6.421			
002	337505	4563	T	9.104			
003	239311	3377		11.299			
004	49152	2200	V	19.723	M TRICHLOROETHENE	0.748	
005	51358	2952	V	25.576	M TETRACHLOROETHENE	0.684	
006	36408	1055	V	27.596			
007	142113	4578		29.346	M CHLOROBENZENE	0.735	
008	112666	1885		43.091	M P - XYLENE	0.498	
009	116723	1326	T	50.069	M 1,3-DICHLOROBENZENE	0.722	
010	121728	1198		53.483	M 1,4-DICHLOROBENZENE	0.568	

STD A 1. O

SAMPLE NO. : 06089220 . 12
TEST NO. :
METHOD NO. : 20 / 20

INSTRUMENT: 20
DATE TIME: 06/08/92 21:20:35
PAGE NO. : 01



Y MAXIMUM: 8368.
Y MINIMUM: 5176.

START TIME: 0. 00
END TIME: 56. 00

0000045

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:27:16

MULTILEVEL EXTERNAL STANDARD

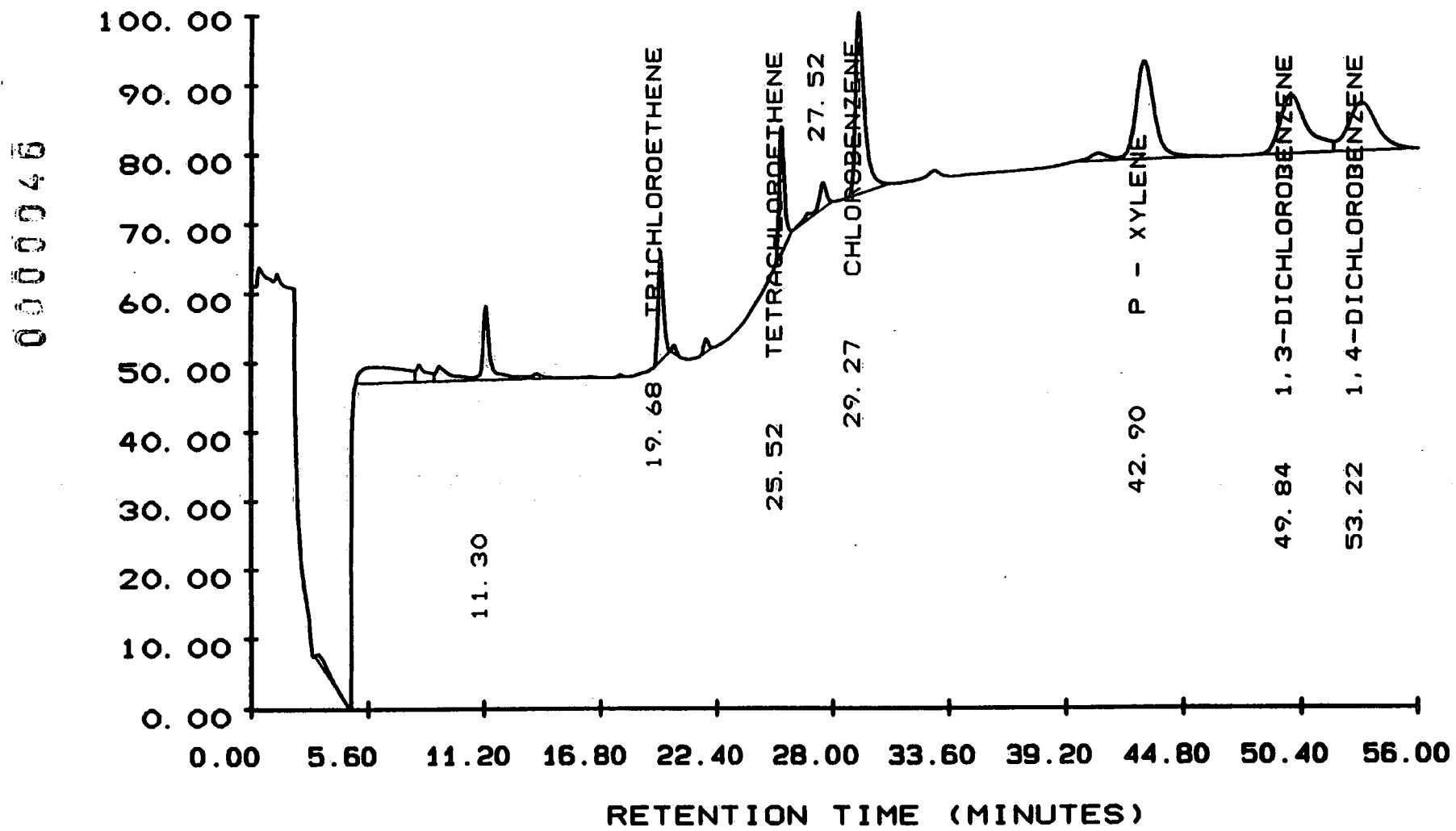
SAMPLE: 06089220 .12 INST:20 VIAL:FO SEQ NUMBER:012
TEST : DATE-TIME INJECTED : 06/08/92 21:20:35
COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/10/92 13:27:16
METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 5.0 ML
CLIENT: COLUMN TYPE: CARBOPACK B,
LAB ID: STD A 1.0 RAW FILE: RAW1:F8230736
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK	BL	RT	GR	COMPONENT	HEIGHT	CONC
		HEIGHT	MINUTES	#	NAME	PPB		
001	1772691	8580	T	6.443				
002	465014	6071	T	9.105				
003	295230	4977		11.293				
004	72711	3440	V	19.710	M	TRICHLOROETHENE		1.081
006	85916	4975	V	25.556	M	TETRACHLOROETHENE		1.160
007	57014	1886	V	27.563				
008	205157	6875		29.318	M	CHLOROBENZENE		1.137
010	205018	3387		43.036	M	P - XYLENE		0.976
011	160614	1948	T	50.003	M	1,3-DICHLOROBENZENE		1.037
012	158554	1684		53.440	M	1,4-DICHLOROBENZENE		0.888

STD A 2.0

SAMPLE NO. : 06099220
TEST NO. :
METHOD NO. : 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/10/92 02:43:03
PAGE NO. : 01



Y MAXIMUM: 8680.
Y MINIMUM: 4626.

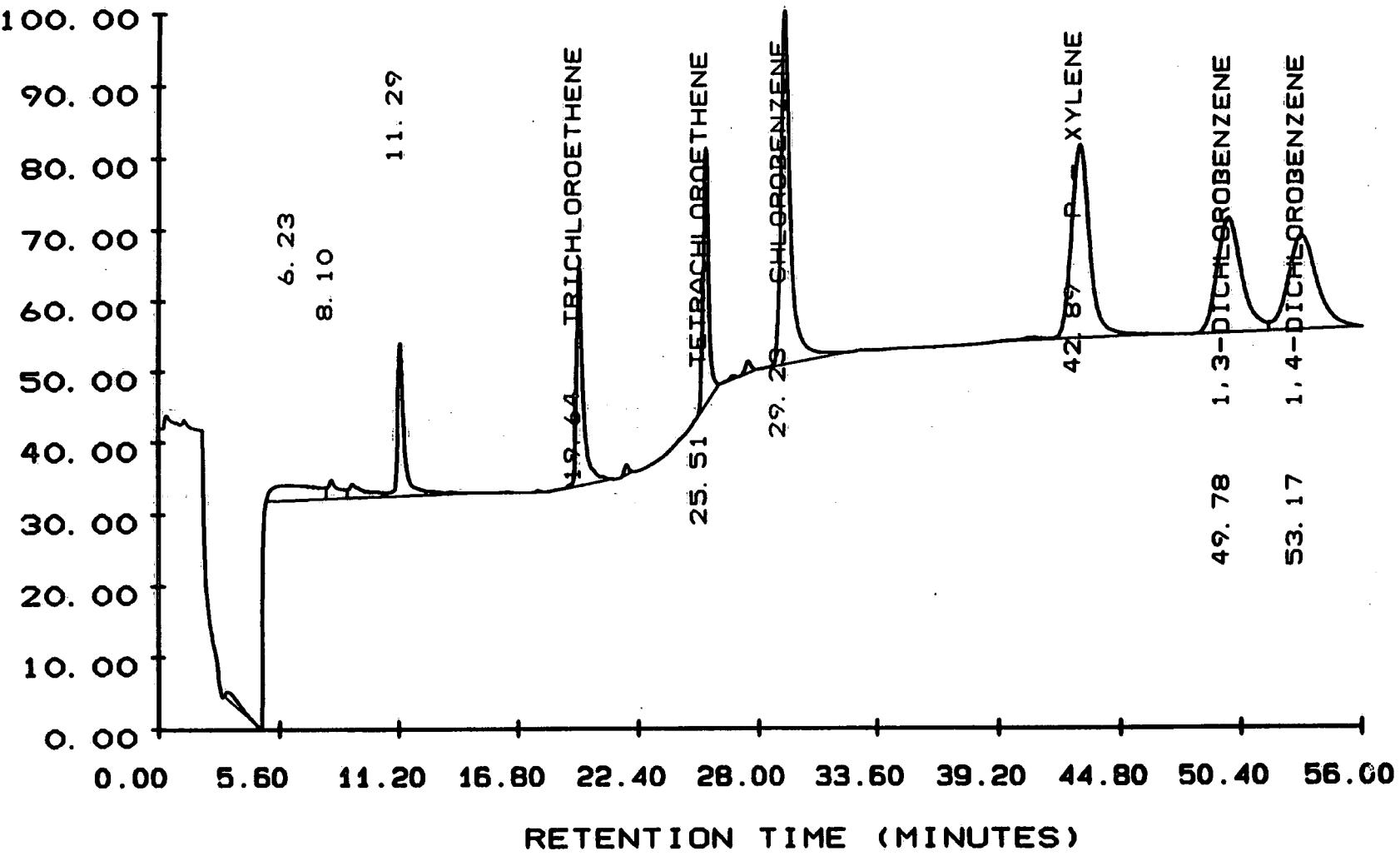
START TIME: 0. 00
END TIME: 56. 00

STD A 5.0

SAMPLE NO.: 06099220 . 18
TEST NO.:
METHOD NO.: 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/10/92 03:47:06
PAGE NO.: 01

0000048



Y MAXIMUM: 10509.
Y MINIMUM: 4638.

START TIME: 0.00
END TIME: 56.00

0000047

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:32:25

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .17 INST:20 VIAL:FO SEQ NUMBER:017
 TEST : DATE-TIME INJECTED : 06/10/92 02:43:03
 COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/10/92 13:32:25
 METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL: 5.0 ML
 CLIENT: COLUMN TYPE: CARBOPACK B,
 LAB ID: STD A 2.0 RAW FILE: RAW1:FA231413
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
003	37596	1019	T	8.105		
005	102975	4299	T	11.298		
009	107990	6041	V	19.678	M TRICHLOROETHENE	1.780
012	125014	7252	V	25.522	M TETRACHLOROETHENE	1.695
013	45074	1497	V	27.524		
014	321562	10523		29.267	M CHLOROBENZENE	1.774
016	341619	5690		42.903	M P - XYLENE	1.709
017	310285	3426	T	49.838	M 1,3-DICHLOROBENZENE	1.785
018	272525	2803		53.222	M 1,4-DICHLOROBENZENE	1.624

0000049

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:32:44

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .18 INST:20 VIAL:FO SEQ NUMBER:018
TEST : DATE-TIME INJECTED : 06/10/92 03:47:06
COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/10/92 13:32:44
METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 5.0 ML
CLIENT: COLUMN TYPE: CARBOPACK B,
LAB ID: STD A 5.0 RAW FILE: RAW1:FA231431
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

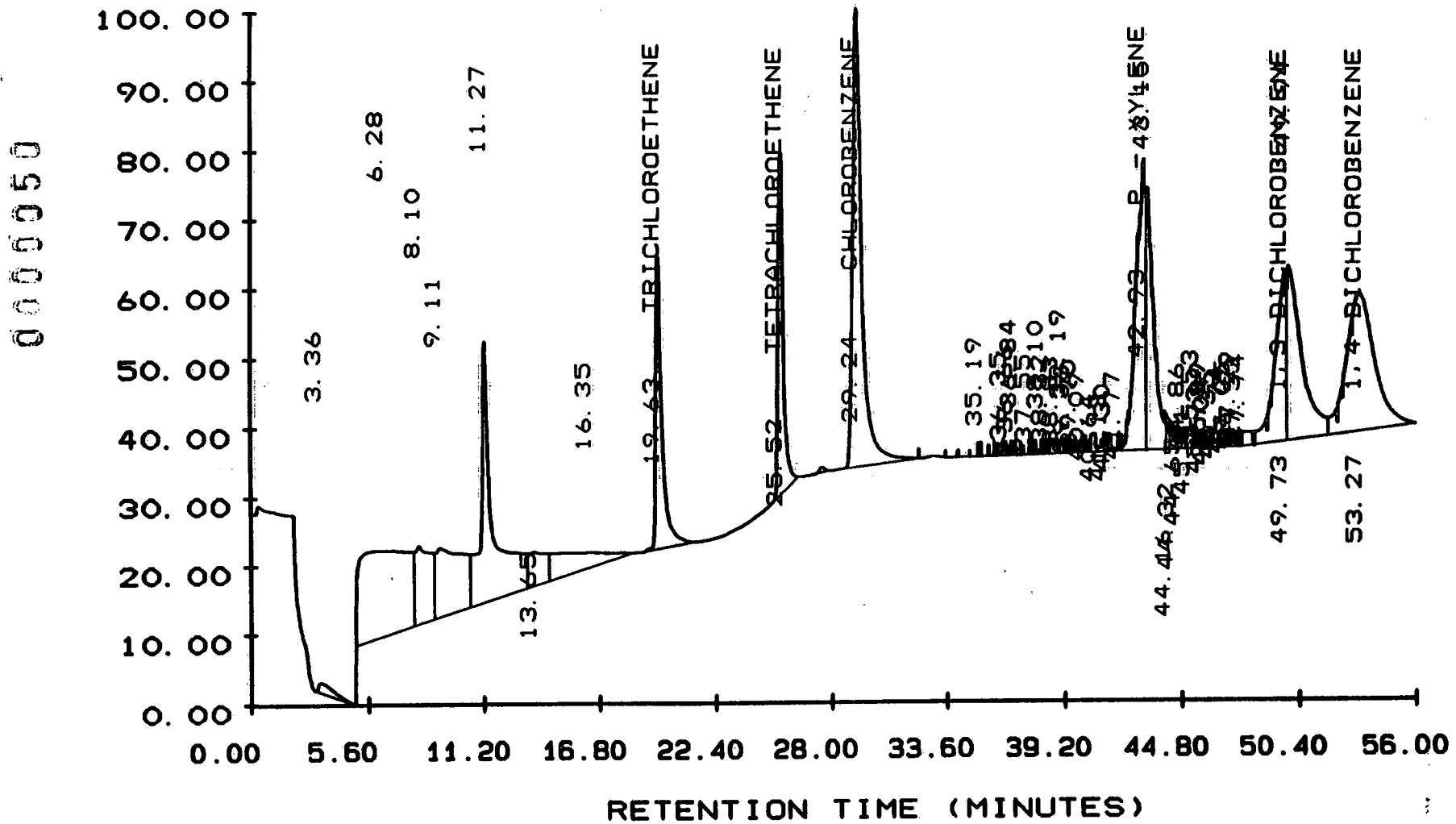
PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT
							CONC PPB
002	185561	1235	T	6.229			
003	56542	1531	T	8.104			
004	64193	1136	T	9.080			
005	282739	12549		11.290			
008	389432	17900	V	19.641	M	TRICHLOROETHENE	4.967
010	371457	21067	V	25.506	M	TETRACHLOROETHENE	4.945
012	929562	28909		29.230	M	CHLOROBENZENE	4.988
014	926221	15875		42.890	M	P - XYLENE	4.951
015	750400	9495	T	49.782	M	1,3-DICHLOROBENZENE	4.859
016	734131	7798		53.172	M	1,4-DICHLOROBENZENE	4.911

STD A 10

SAMPLE NO. : 06099220
TEST NO. :
METHOD NO. : 20 / 20A

.04

INSTRUMENT: 20
DATE TIME: 06/09/92 12:42:42
PAGE NO. : 01



0000051

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:31:53

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .04
 TEST :
 COLLECTION TIME : 56.01
 METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA
 CLIENT ID:
 CLIENT:
 LAB ID: STD A 10
 SAMPLE WT : % MOISTURE :

INST:20 VIAL:FO SEQ NUMBER:004
 DATE-TIME INJECTED : 06/09/92 12:42:42
 DATE-TIME PROCESSED : 06/10/92 13:31:53
 SAMP RATE: 0.78
 SAMPLE VOL: 5.0 ML
 COLUMN TYPE: CARBOPACK B,
 RAW FILE: RAW1:F9231032
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC	PPB
001	65336	1239		3.358			
002	1783759	10906	T	6.283			
003	535744	9936	T	8.097			
004	801603	8821	T	9.108			
005	1400785	32771	T	11.275			
006	243363	4288	T	13.651			
007	433152	1888	V	16.352			
008	806701	36681	V	19.631	M TRICHLOROETHENE	10.013	
009	769054	42891	V	25.524	M TETRACHLOROETHENE	10.078	
011	1835213	57604		29.243	M CHLOROBENZENE	10.004	
012	12290	1611	V	35.194			
014	5036	1175	T	35.853			
015	25414	1797	V	36.352			
016	10742	1699	T	36.663			
017	7161	1388	T	36.838			
019	17140	1824	T	37.547			
020	4876	1138	T	37.824			
021	7570	1399	T	38.105			
022	12390	1835	T	38.315			
023	45774	1859	T	38.827			
024	6435	1271	T	39.190			
025	21057	1961	T	39.360			
026	10264	1895	T	39.698			
027	35105	2066	T	40.086			
028	38798	2326	T	40.640			
029	32329	2322	T	41.131			
030	22766	2197	T	41.301			
031	14634	2054	T	41.773			
032	1155189	36366	T	42.934	M P - XYLENE	11.474	
033	837521	32447	T	43.148			
034	33457	4051	T	44.158			
035	39204	3457	T	44.325			
036	33303	2896	T	44.651			
037	14504	1942	T	44.864			
038	51860	2496	T	45.111			
039	11721	1777	T	45.529			
040	24545	2231	T	45.730			
041	9025	1937	T	45.894			
042	34054	2122	T	46.037			
043	32968	2045	T	46.352			

000052

SAMPLE: 06099220 .04

PAGE NUMBER: 2

DATE-TIME INJECTED : 06/09/92 12:42:42

DATE-TIME PROCESSED : 06/10/92 13:31:53

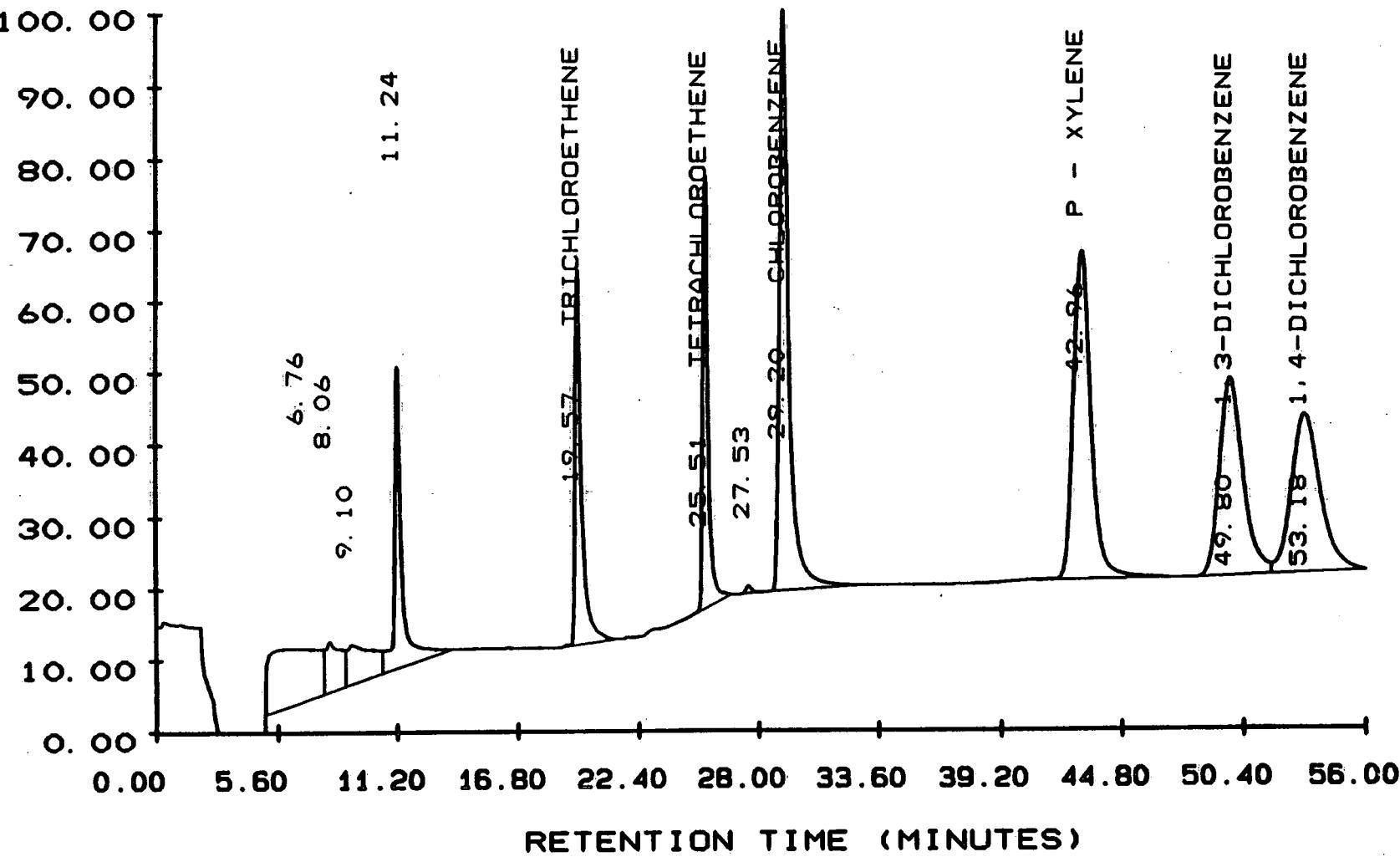
PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT	HEIGHT		
						CONC	PPB	
044	30523	1979	T	46.741				
045	9848	1922	T	47.049				
046	17434	1802	T	47.294				
047	16226	1878	V	47.531				
048	56291	1827	T	47.744				
049	784514	21192	T	49.731	M 1,3-DICHLOROBENZENE	10.784		
050	1061571	21831	T	49.939				
051	1662925	17236		53.266	M 1,4-DICHLOROBENZENE	11.123		

STD A 20

SAMPLE NO. : 06089220 .07
TEST NO. :
METHOD NO. : 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/08/92 15:57:58
PAGE NO. : 01

0 0 0 0 0 5 3



Y MAXIMUM: 19196.
Y MINIMUM: 5004.

START TIME: 0.00
END TIME: 56.00

0000054

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:25:26

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06089220 .07 INST:20 VIAL:FO SEQ NUMBER:007
 TEST : DATE-TIME INJECTED : 06/08/92 15:57:58
 COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/10/92 13:25:26
 METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL: 5.0 ML
 CLIENT: COLUMN TYPE: CARBOPACK B,
 LAB ID: STD A 20 RAW FILE: RAW1:F8230569
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

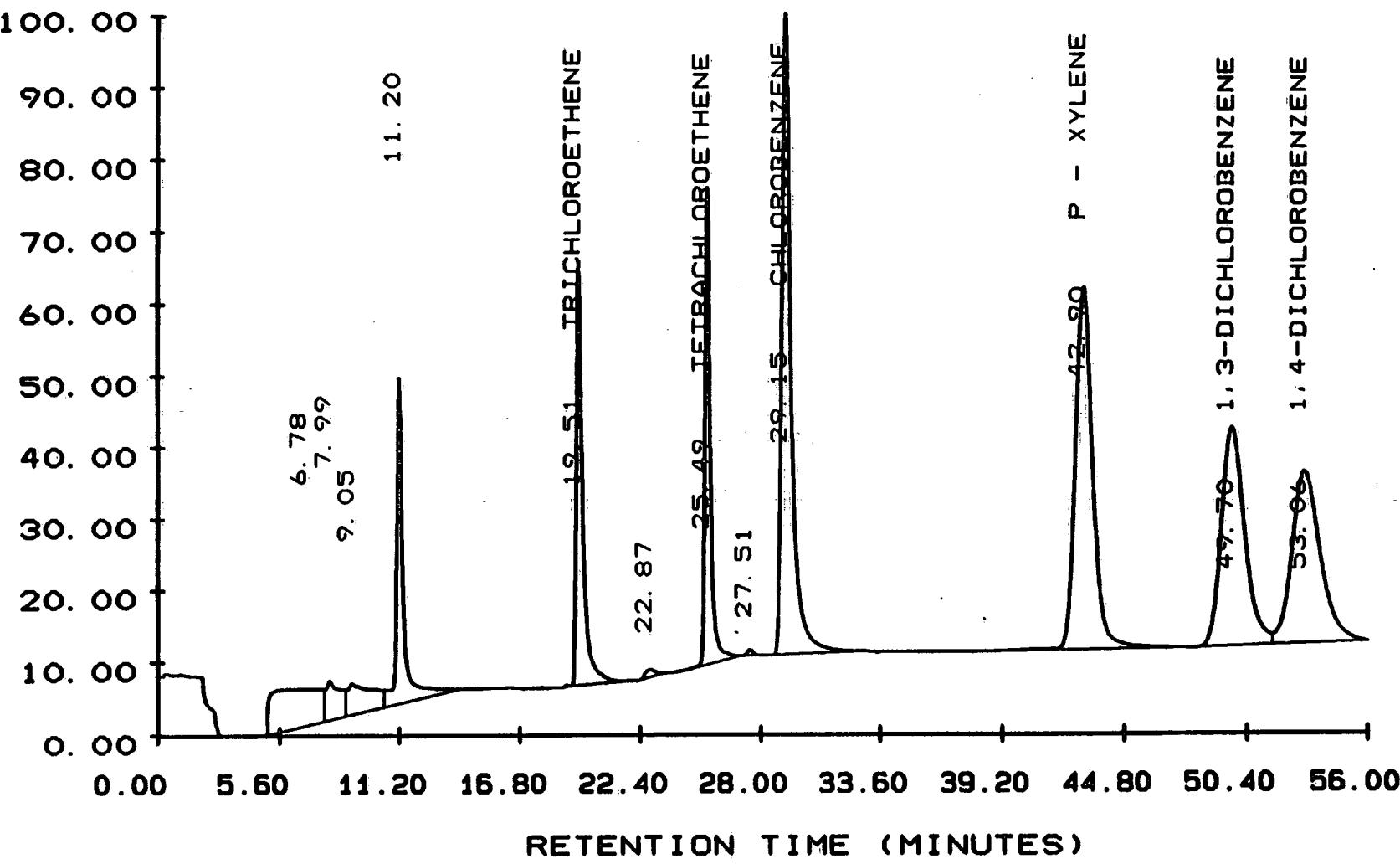
PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT	HEIGHT
						CONC
						PPB
001	1770503	10475	T	6.763		
002	520602	10004	T	8.057		
003	646736	7846	T	9.098		
004	1427383	59322		11.240		
006	1591483	74070	V	19.573 M	TRICHLOROETHENE	20.060
007	1543805	85380	V	25.507 M	TETRACHLOROETHENE	20.071
008	28621	1448	V	27.529		
009	3560167	114287		29.199 M	CHLOROBENZENE	19.912
010	3666163	64821		42.956 M	P - XYLENE	20.531
011	2934067	38792	T	49.805 M	1,3-DICHLOROBENZENE	19.698
012	2876403	31054		53.181 M	1,4-DICHLOROBENZENE	20.216

STD A 40

SAMPLE NO. : 06089220 .08
TEST NO. :
METHOD NO. : 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/08/92 17:02:34
PAGE NO. : 01

0 0 0 0 0 5 5



Y MAXIMUM: 30579.
Y MINIMUM: 5045.

START TIME: 0.00
END TIME: 56.00

0000056

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:25:54

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06089220 .08
 TEST :
 COLLECTION TIME : 56.01
 METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD A 40
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:FO SEQ NUMBER:008
 DATE-TIME INJECTED : 06/08/92 17:02:34
 DATE-TIME PROCESSED : 06/10/92 13:25:54
 SAMPLE VOL: 5.0 ML
 COLUMN TYPE: CARBOPACK B,
 RAW FILE: RAW1:F8230608
 DILUTION FACTOR : 1.0000

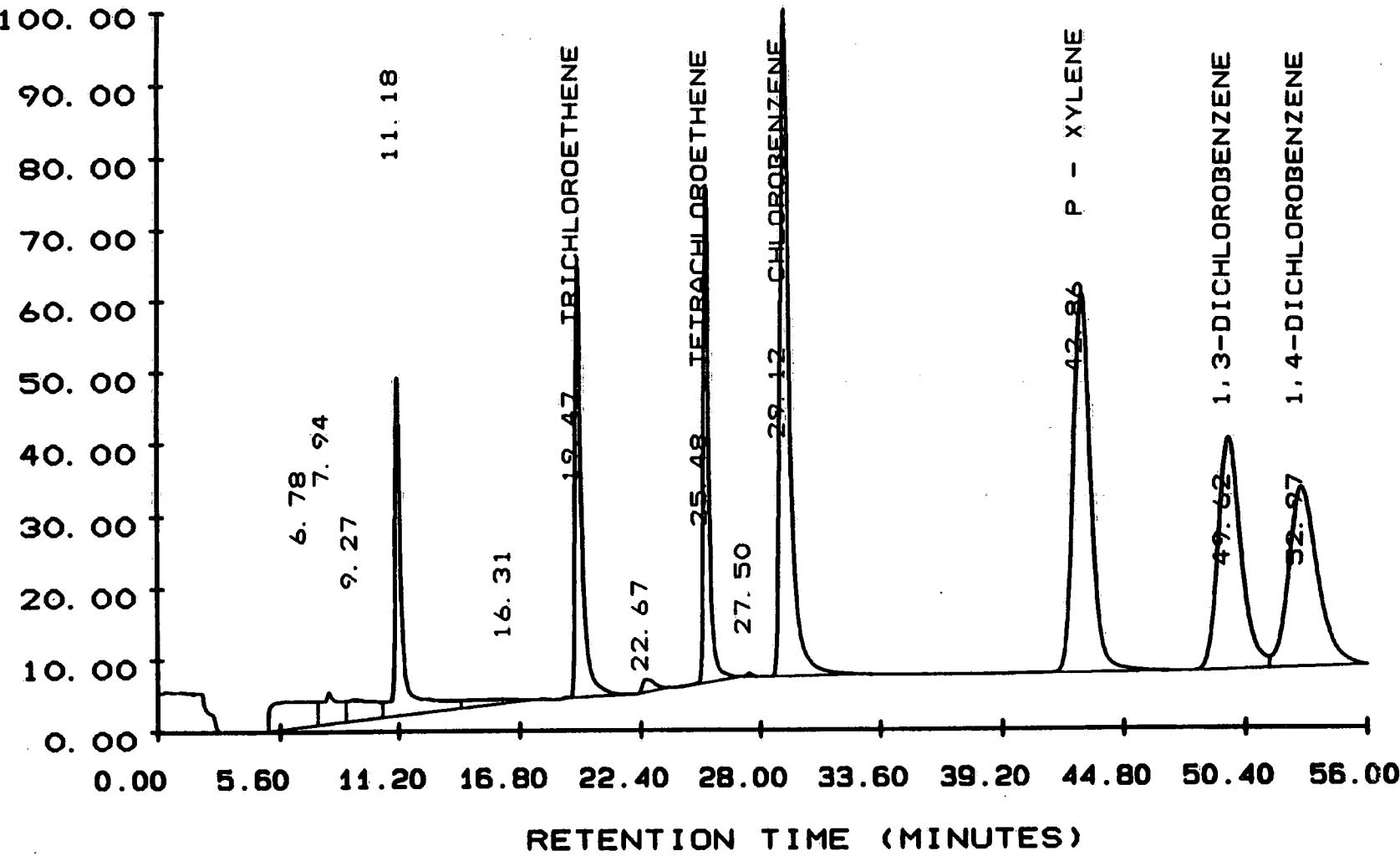
PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT	CONC PPB
001	2108323	12815	T	6.784			
002	682134	13420	T	7.991			
003	856443	10789	T	9.053			
004	2528897	115559		11.203			
007	3115903	146839	V	19.514 M	TRICHLOROETHENE	39.613	
009	95836	2616	V	22.867			
010	3039875	168761	V	25.486 M	TETRACHLOROETHENE	39.682	
011	40506	2098	V	27.510			
012	6963059	227640		29.151 M	CHLOROBENZENE	39.726	
014	7244019	128871		42.900 M	P - XYLENE	40.918	
015	5792563	78089	T	49.703 M	1,3-DICHLOROBENZENE	39.602	
016	5701389	61447		53.063 M	1,4-DICHLOROBENZENE	40.218	

STD A 60

SAMPLE NO. : 06089220
TEST NO. :
METHOD NO. : 20 / 20A

INSTRUMENT: 20
DATE TIME: 06/08/92 19:11:46
PAGE NO. : 01

000000057



Y MAXIMUM: 42322.
Y MINIMUM: 5105.

START TIME: 0.00
END TIME: 56.00

0000058

Roy F. Weston, Inc. - Lionville Laboratory

06/10/92 13:26:25

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06089220 .10 INST:20 VIAL:FO SEQ NUMBER:010
TEST : DATE-TIME INJECTED : 06/08/92 19:11:46
COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/10/92 13:26:25
METHOD: 20 / 20A REV #: 00114 ANALYST: MARIA SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 5.0 ML
CLIENT: COLUMN TYPE: CARBOPACK B,
LAB ID: STD A 60 RAW FILE: RAW1:F8230670
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT	
							CONC	PPB
001	1904489	13233	T	6.784				
002	998815	16182	T	7.939				
003	1019361	10908	T	9.267				
004	4168017	174306	T	11.176				
005	473727	2027	V	16.313				
008	4758323	223585	V	19.474	M	TRICHLOROETHENE	60.234	
009	266074	6490	V	22.668				
010	4542583	255871	V	25.475	M	TETRACHLOROETHENE	60.170	
011	33727	1818	V	27.501				
012	10475431	344680		29.122	M	CHLOROBENZENE	60.185	
014	10886951	196059		42.863	M	P - XYLENE	62.304	
015	8752257	119762	T	49.620	M	1,3-DICHLOROBENZENE	60.709	
016	8640833	93062		52.966	M	1,4-DICHLOROBENZENE	61.024	

000059

Roy F. Weston, Inc. - Lionville Laboratory

METHOD NUMBER : 20B
METHOD TITLE : 5.0 ml, CARBOPACKB
USER PROGRAMS : USER:MULTIV10

ORDER OF FIT : 1
NUMBER OF LEVELS : 10
REPORT PARAMETERS :
NO.OF TIMES MODIFIED : 8
NO.OF TIMES CALIBRAT : 59

#	COMPONENT NAME	LEVEL A LEVEL F	LEVEL B LEVEL G	LEVEL C LEVEL H	LEVEL D LEVEL I	LEVEL E LEVEL J
1	BENZENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
2	TOLUENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
3	ETHYLBENZENE	0.5000 20.0000	1.0000 40.0000	2.0000 50.0000	5.0000 60.0000	10.0000 80.0000
4	M - XYLENE	0.4992 19.9680	0.9984 39.9360	1.9968 49.9200	4.9920 59.9040	9.9840 79.8720
5	O - XYLENE	0.5050 20.2000	1.0100 40.4000	2.0200 50.5000	5.0500 60.6000	10.1000 80.8000
6	1,2-DICHLOROBENZENE	0.5042 20.1700	1.0085 40.3400	2.0170 50.4250	5.0425 60.5100	10.0850 80.6800

0000060

MULTILEVEL CALIBRATION METHOD 20B 06/24/92 08:46:04
 1ST ORDER EXTERNAL STANDARD CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
A	06099220.05		
B	06109220.01		
C			
D	06099220.19		
E	06099220.09		
F	06109220.09		
G			
H			
I	06099220.16		
J			

PEAK NAME	a	b	c	d	SD OF FIT	CORR COEFF
BENZENE			1.240E-04	6.758E-01	0.80075	0.99900
TOLUENE			1.372E-04	2.432E-01	0.7177	0.99919
ETHYLBENZENE			2.466E-04	1.548E-01	0.49346	0.99962
M - XYLENE			2.974E-04	5.910E-03	0.64164	0.99935
O - XYLENE			3.975E-04	-2.957E-01	0.38413	0.99977
1,2-DICHLOROBENZENE			7.656E-04	-4.729E-01	0.71400	0.99922

STD B O.5

SAMPLE NO. : 06099220

TEST NO. :

METHOD NO. : 20 / 20B

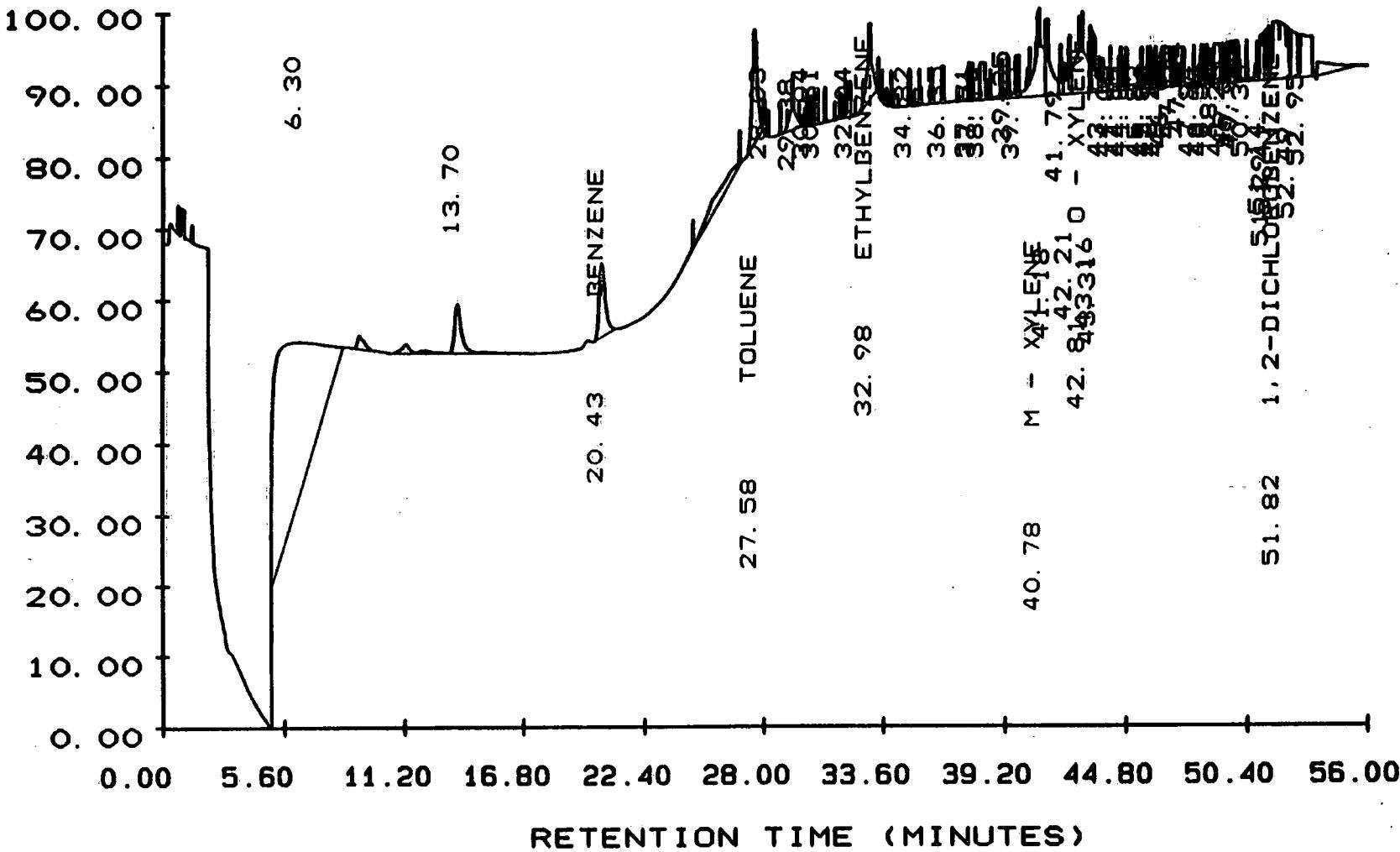
.05

INSTRUMENT: 20

DATE TIME: 06/09/92 13:45:45

PAGE NO. : 01

0000061



0000062

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 08:51:23

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .05

INST:20 VIAL:F0 SEQ NUMBER:005

TEST :

DATE-TIME INJECTED : 06/09/92 13:45:45

COLLECTION TIME : 56.01

DATE-TIME PROCESSED : 06/24/92 08:51:23

METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0 ml

CLIENT:

LAB ID: STD B 0.5

COLUMN TYPE: CARBOPACKB, P

SAMPLE WT :

% MOISTURE :

RAW FILE: RAW1:F9231052

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
001	1183719	7515		6.302		
004	57027	2411		13.702		
005	72494	3639	V	20.435	M BENZENE	1.127
008	88421	5328	V	27.576	M TOLUENE	0.974
009	11458	1616	V	28.031		
011	39090	2100	V	29.378		
012	9830	1498	V	30.044		
013	14515	1725	V	30.507		
016	24838	1743	V	32.043		
017	56339	3013	V	32.983	M ETHYLBENZENE	0.898
021	14928	1767	V	34.816		
024	11078	1803	T	36.352		
025	19449	1864	T	37.611		
026	7613	1603	T	37.762		
027	31634	1856	T	38.144		
030	11338	1974	T	39.352		
031	20062	2053	T	39.751		
032	112827	4290	T	40.782	M M - XYLENE	1.282
033	56807	2943	T	41.180		
034	14358	2167	T	41.793		
035	31592	2849	T	42.205		
036	94068	3287	T	42.810	M O - XYLENE	1.011
037	17774	2888	T	43.158		
038	32541	2971	T	43.309		
040	12416	1350	T	43.723		
041	11324	1252	T	44.082		
042	17432	1393	T	44.574		
043	12067	2043	T	44.819		
044	15888	1394	T	45.526		
045	9562	1374	T	45.811		
046	7551	1595	T	45.928		
047	10874	1325	T	46.185		
048	11957	1304	T	46.486		
049	36662	1995	T	46.648		
050	17701	1956	T	47.040		
052	11420	1929	T	47.439		
053	8270	1298	T	47.941		
054	19846	1869	T	48.355		
055	8686	1729	T	48.537		
056	40467	1952	T	48.939		

SAMPLE: 06099220 .05

PAGE NUMBER: 2

DATE-TIME INJECTED : 06/09/92 13:45:45

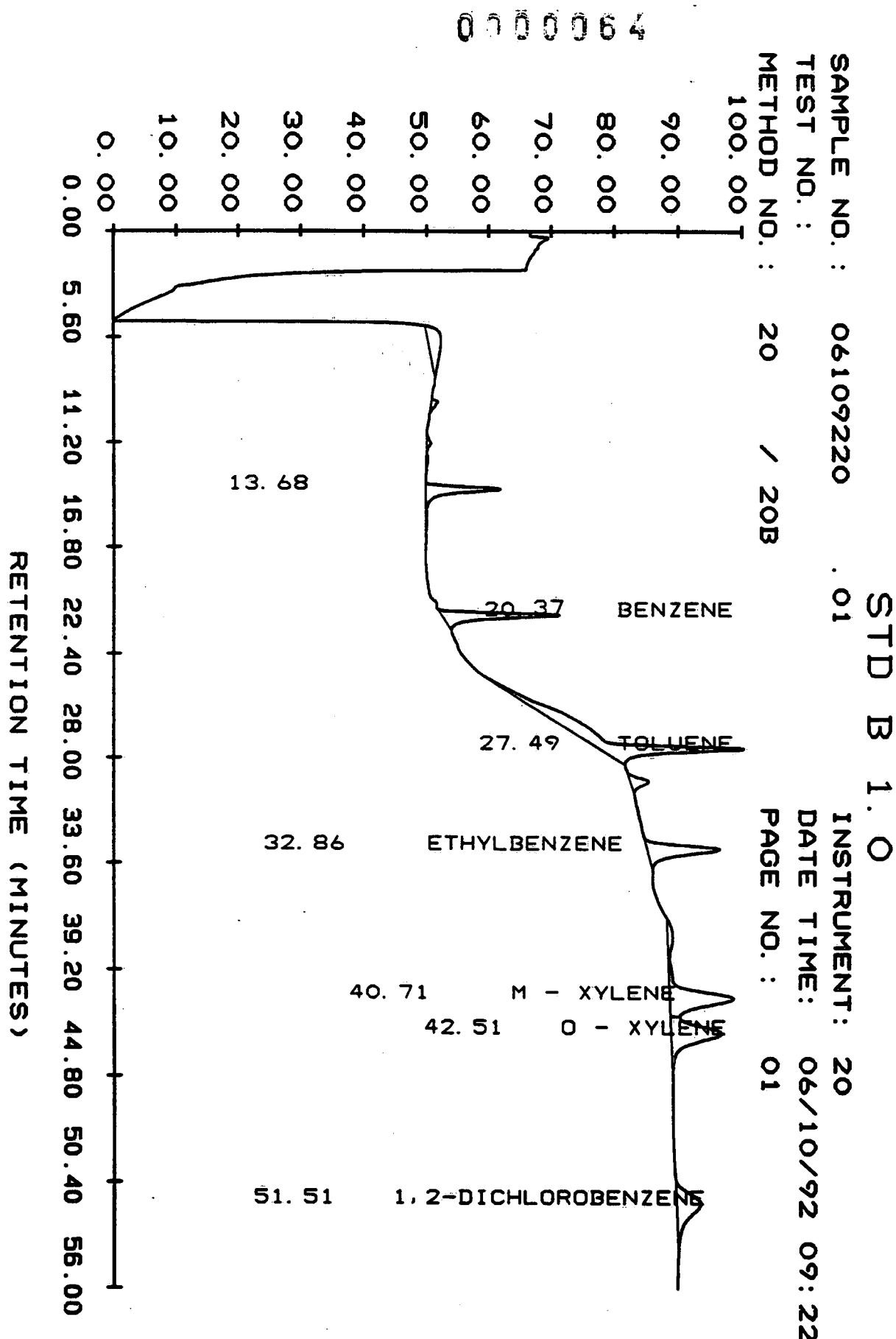
DATE-TIME PROCESSED : 06/24/92 08:51:23

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT	HEIGHT		
						CONC	PPB	
057	6536	1335	T	49.265				
058	14476	1993	T	49.511				
059	24847	2005	T	49.759				
060	18591	2013	T	49.920				
061	9472	1548	T	50.380				
063	28842	2326	T	51.136				
064	15433	2486	T	51.292				
065	13211	2334	T	51.410				
066	129606	2818	T	51.819 M	1,2-DICHLOROBENZENE	1.685		
067	48008	2351	T	52.489				
068	68750	2088	V	52.949				

0000064

SAMPLE NO. : 06109220 .01
TEST NO. :
METHOD NO. : 20 / 20B
100.00

STD B 1. O
INSTRUMENT: 20
DATE TIME: 06/10/92 09:22:42
PAGE NO. : 01



Y MAXIMUM: 8292.
Y MINIMUM: 4732.

START TIME: 0.00
END TIME: 56.00

0000065

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:06:43

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06109220 .01 INST:20 VIAL:FO SEQ NUMBER:001
 TEST : DATE-TIME INJECTED : 06/10/92 09:22:42
 COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/24/92 09:06:43
 METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL: 5.0 ml
 CLIENT: COLUMN TYPE: CARBOPACKB, P
 LAB ID: STD B 1.0 RAW FILE: RAW1:FA231499
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	HEIGHT
						CONC
004	98829	4235	13.684			PPB
005	136006	6683	V	20.369	M BENZENE	1.504
006	370381	7990	V	27.495	M TOLUENE	1.339
008	142230	4031		32.859	M ETHYLBENZENE	1.149
010	201267	3553	T	40.708	M M - XYLENE	1.063
011	172954	2820		42.509	M O - XYLENE	0.825
012	117440	1347		51.509	M 1,2-DICHLOROBENZENE	0.558

STD B 5.0

SAMPLE NO. : 06099220

TEST NO. :

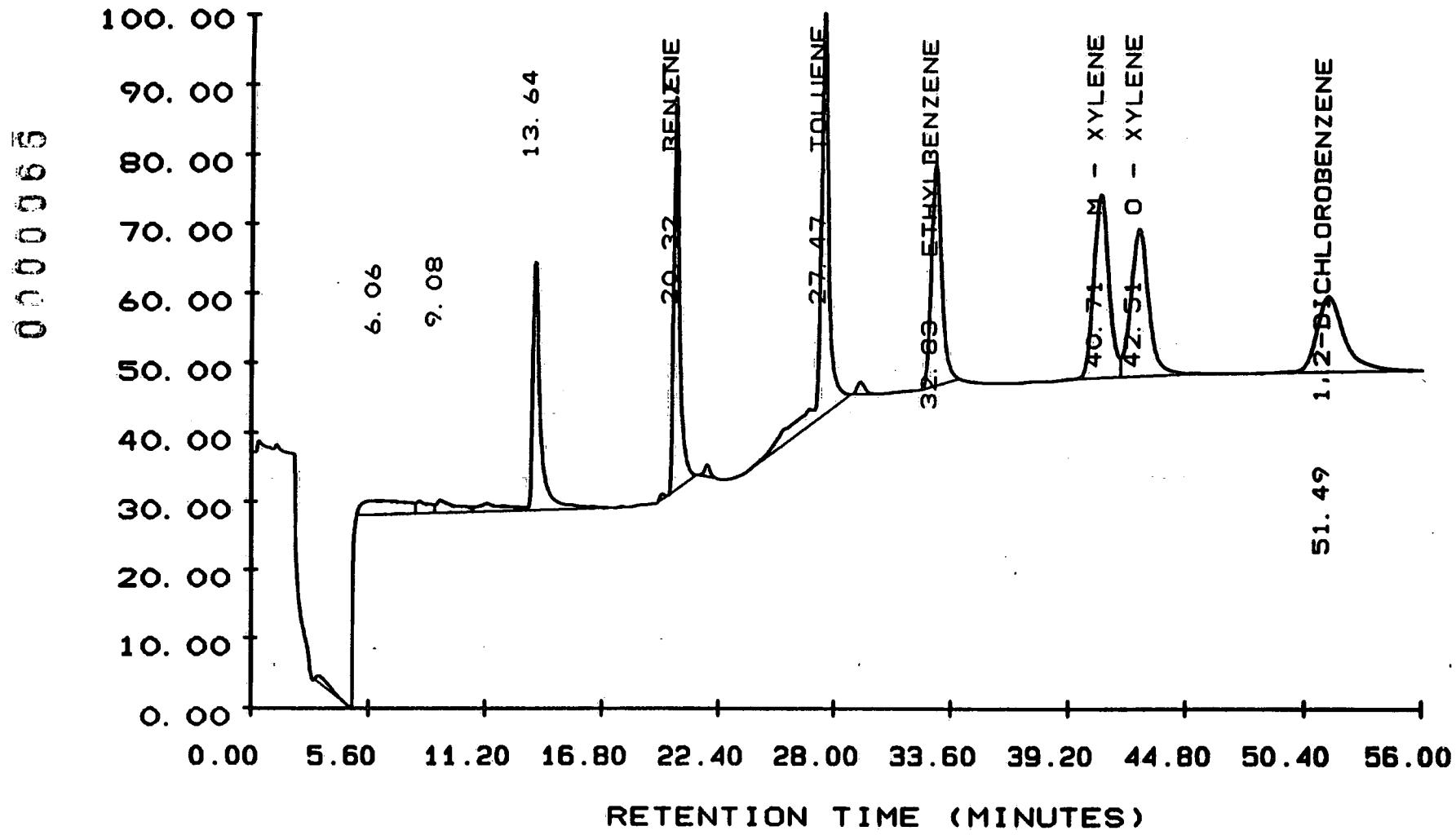
METHOD NO. : 20 / 20B

19

INSTRUMENT: 20

DATE TIME: 06/10/92 04:51:06

PAGE NO. : 01



Y MAXIMUM: 11281.

Y MINIMUM: 4639.

START TIME: 0.00

END TIME: 56.00

0000067

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 08:52:10

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .19
 TEST :
 COLLECTION TIME : 56.01
 METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD B 5.0
 SAMPLE WT : % MOISTURE :
 SAMPLE VOL: 5.0 ml
 COLUMN TYPE: CARBOPACKB, P
 RAW FILE: RAW1:FA231446
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR # NAME	HEIGHT CONC PPB
002	203991	1338	T 6.061		
004	78586	1265	T 9.083		
006	599514	23684	V 13.637		
009	740720	37419	V 20.321 M BENZENE		5.316
011	1099969	38179	V 27.466 M TOLUENE		5.481
013	720986	21015	32.831 M ETHYLBENZENE		5.337
014	865905	17437	T 40.705 M M - XYLENE		5.192
015	825178	14004	42.514 M O - XYLENE		5.271
016	664704	7188	51.490 M 1,2-DICHLOROBENZENE		5.030

STD B 10

SAMPLE NO. : 06099220

TEST NO. :

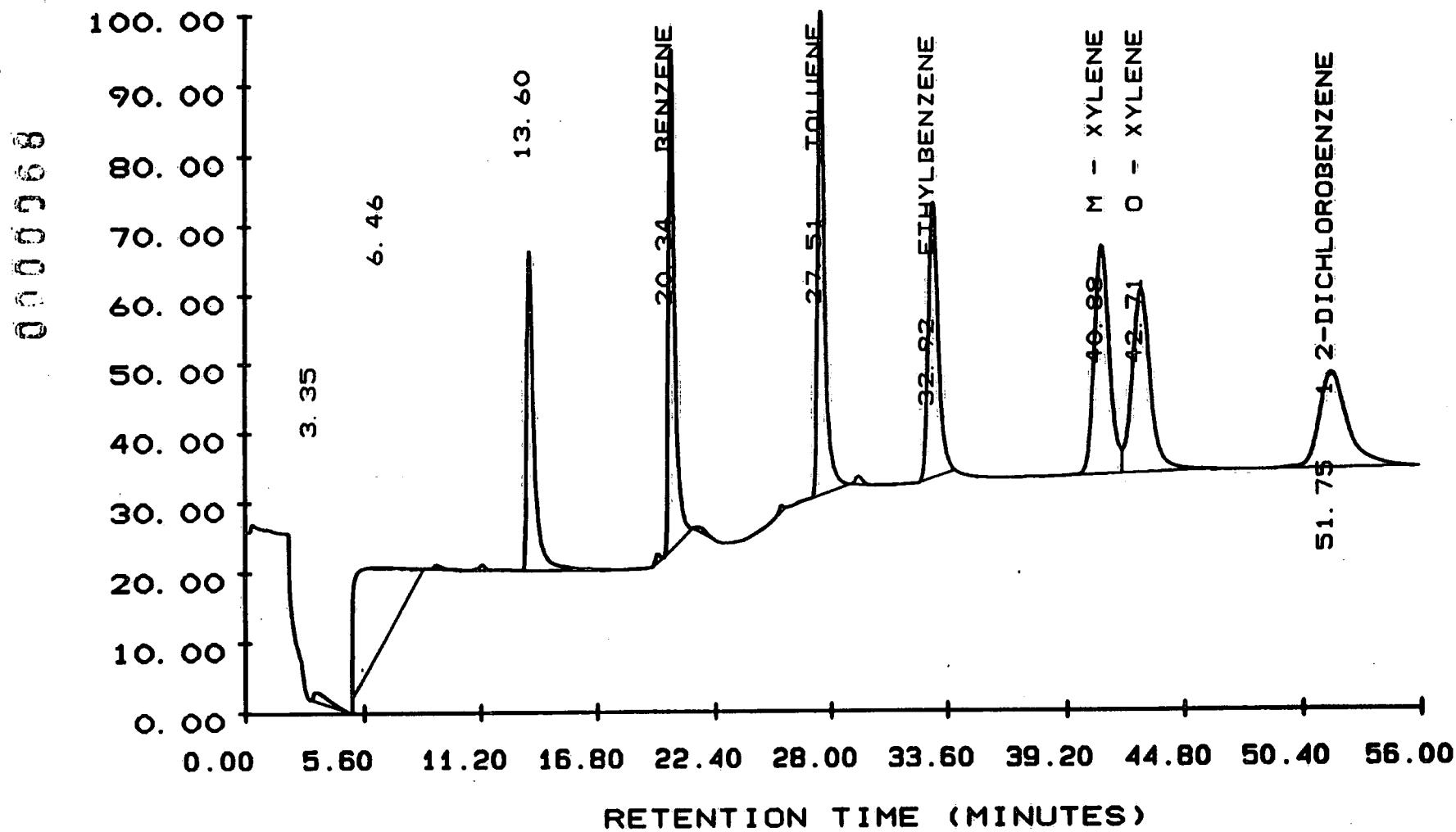
METHOD NO. : 20 / 20B

.09

INSTRUMENT: 20

DATE TIME: 06/09/92 18:08:25

PAGE NO. : 01



Y MAXIMUM: 14157.

Y MINIMUM: 4650.

START TIME: 0.00

END TIME: 56.00

0000069

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 08:51:39

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .09
 TEST :
 COLLECTION TIME : 55.90
 METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD B 10
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:F0 SEQ NUMBER:009
 DATE-TIME INJECTED : 06/09/92 18:08:25
 DATE-TIME PROCESSED : 06/24/92 08:51:39
 SAMPLE VOL: 5.0 ml
 COLUMN TYPE: CARBOPACKB, P
 RAW FILE: RAW1:F9231186
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
001	69616	1313		3.349		
002	1781939	10364		6.464		
005	1047923	43693		13.603		
007	1341019	68129	V	20.335	M BENZENE	9.124
010	1541067	65876	V	27.512	M TOLUENE	9.281
012	1285977	37740		32.924	M ETHYLBENZENE	9.461
014	1574695	31488	T	40.882	M M - XYLENE	9.370
015	1527079	25255		42.712	M O - XYLENE	9.743
016	1221235	13135		51.754	M 1,2-DICHLOROBENZENE	9.583

STD B 20

SAMPLE NO. : 06109220

09

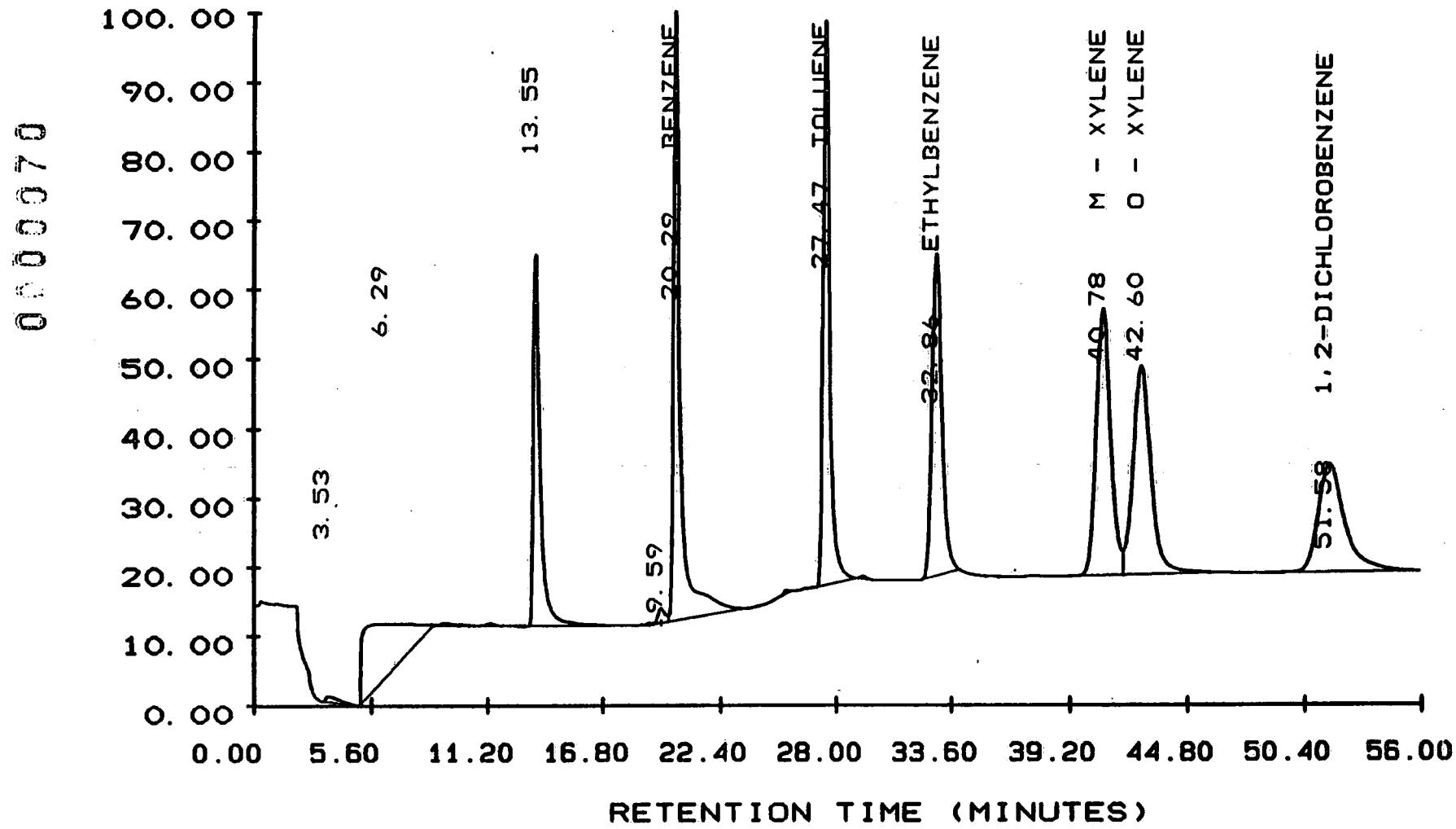
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/10/92 18:54:39

METHOD NO. : 20 / 20B

PAGE NO. : 01



Y MAXIMUM: 21563.

START TIME: 0.00

Y MINIMUM: 4659.

END TIME: 56.00

0000071

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:07:14

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06109220 .09 INST:20 VIAL:F0 SEQ NUMBER:009
TEST : DATE-TIME INJECTED : 06/10/92 18:54:39
COLLECTION TIME : 55.90 DATE-TIME PROCESSED : 06/24/92 09:07:14
METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 5.0 ml
CLIENT: COLUMN TYPE: CARBOPACKB, P
LAB ID: STD B 20 RAW FILE: RAW1:FA231810
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
001	64694	1320		3.527		
002	2030863	12922		6.290		
005	2128027	90210		13.552		
006	89962	3587	T	19.586		
007	3412737	148176	V	20.286	M BENZENE	19.050
009	3088947	137208	V	27.468	M TOLUENE	19.068
011	2628421	78112		32.857	M ETHYLBENZENE	19.417
013	3151987	64670	T	40.783	M M - XYLENE	19.239
014	2985395	50743		42.604	M O - XYLENE	19.875
015	2364417	26441		51.580	M 1,2-DICHLOROBENZENE	19.770

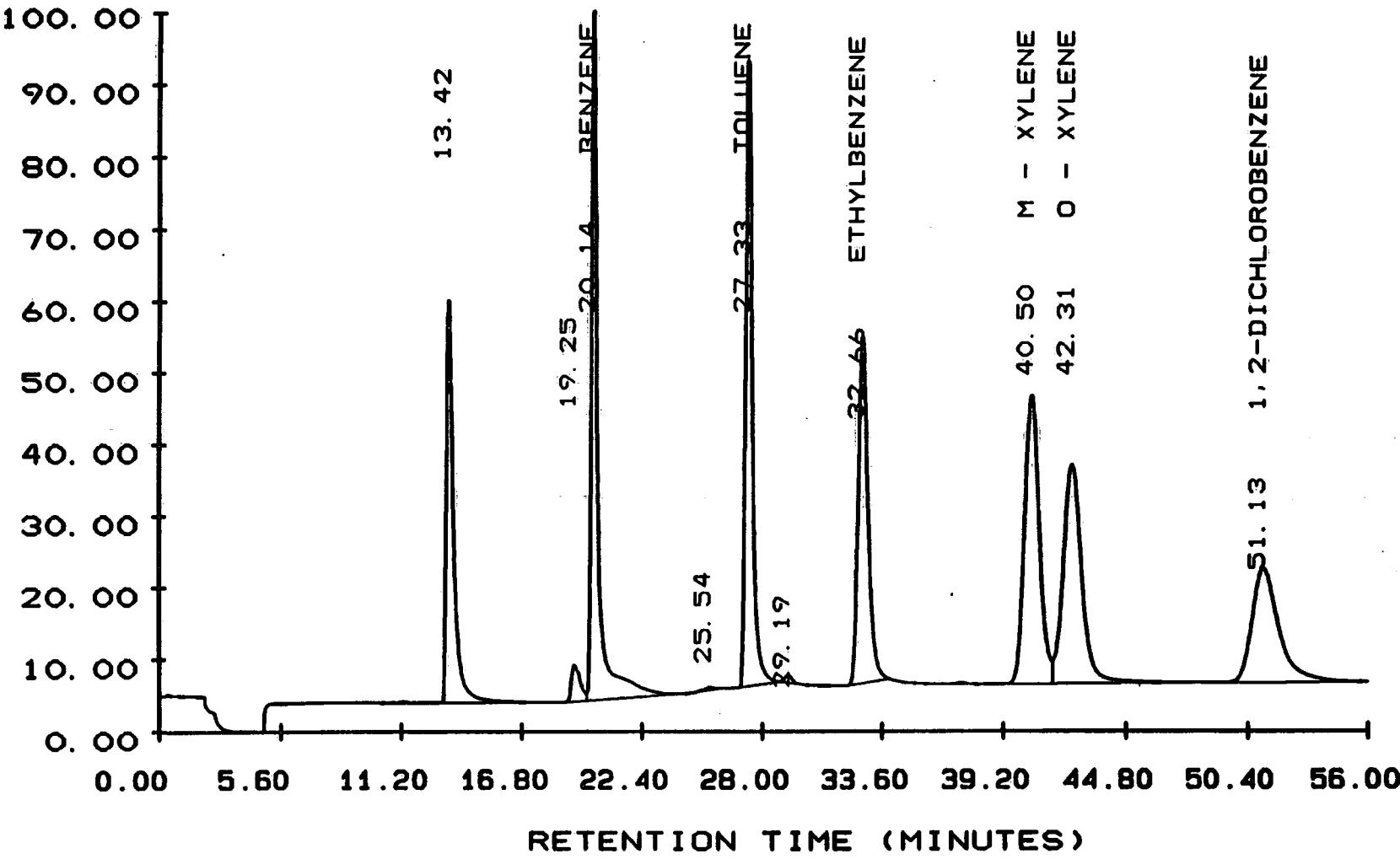
0000072

STD B-60

SAMPLE NO. : 06099220
TEST NO. :
METHOD NO. : 20 / 20B

16

INSTRUMENT: 20
DATE TIME: 06/10/92 01:39:10
PAGE NO.: 01



Y MAXIMUM: 55067.
Y MINIMUM: 4628.

START TIME: 0.00
END TIME: 56.00

0000073

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 08:51:55

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06099220 .16
 TEST :
 COLLECTION TIME : 56.01
 METHOD: 20 / 20B REV #: 00106 ANALYST: MARIA
 CLIENT ID:
 CLIENT:
 LAB ID: STD B 60
 SAMPLE WT : % MOISTURE :
 INST:20 VIAL:F0 SEQ NUMBER:016
 DATE-TIME INJECTED : 06/10/92 01:39:10
 DATE-TIME PROCESSED : 06/24/92 08:51:55
 SAMP RATE: 0.78
 SAMPLE VOL: 5.0 ml
 COLUMN TYPE: CARBOPACKB, P
 RAW FILE: RAW1:FA231394
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
005	6569947	282193	V	13.418		
006	725330	25063	T	19.247		
007	10345383	481508	V	20.140	M BENZENE	60.383
008	78449	2099	V	25.536		
009	9407051	437899	V	27.327	M TOLUENE	60.323
010	124731	5447	V	29.186		
011	8120147	243592		32.658	M ETHYLBENZENE	60.225
013	9484251	202370	T	40.503	M M - XYLENE	60.191
014	8896691	153536		42.309	M O - XYLENE	60.735
015	6997825	79886		51.128	M 1,2-DICHLOROBENZENE	60.688

0000074

Roy F. Weston, Inc. - Lionville Laboratory

METHOD NUMBER	:	20D
METHOD TITLE	:	5.0mL,CARBOPACKB,P
USER PROGRAMS	:	USER:MULTIV10
ORDER OF FIT	:	1
NUMBER OF LEVELS	:	9
REPORT PARAMETERS	:	
NO.OF TIMES MODIFIED	:	6
NO.OF TIMES CALIBRAT	:	35

#	COMPONENT NAME	LEVEL A LEVEL F	LEVEL B LEVEL G	LEVEL C LEVEL H	LEVEL D LEVEL I	LEVEL E
1	aaa-TRIFLUOROTOLUENE	0.5000 20.0000	1.0000 40.0000	2.0000 60.0000	5.0000 80.0000	10.0000

000075

MULTILEVEL CALIBRATION METHOD 20D
1ST ORDER EXTERNAL STANDARD

06/05/92 10:26:32

CALIBRATION USING PEAK HEIGHT

TEST:

LEVEL	REPLICATE 1	REPLICATE 2	REPLICATE 3
-------	-------------	-------------	-------------

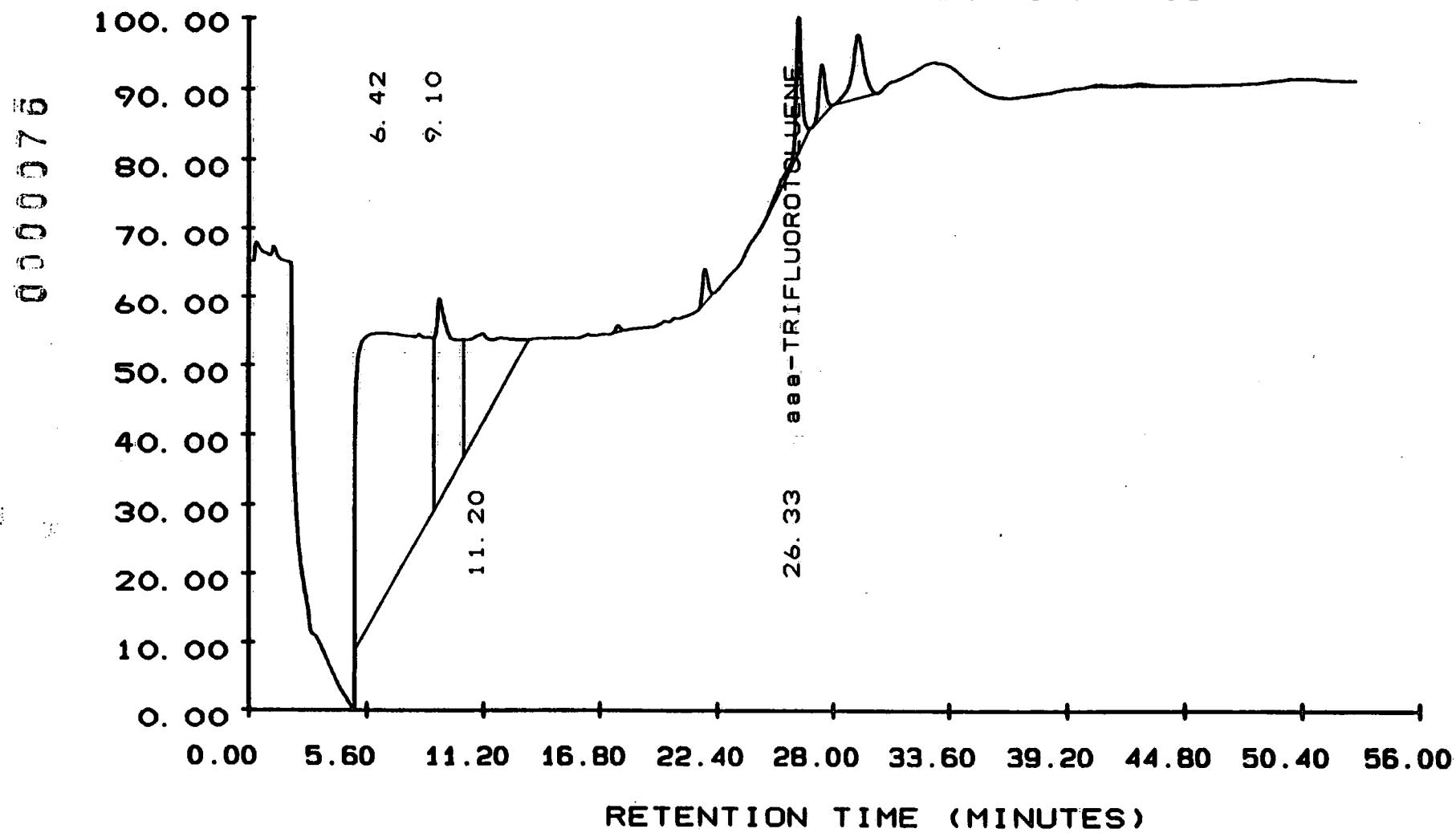
A	
B	06049220.01
C	06049220.02
D	06049220.03
E	06049220.04
F	06049220.06
G	
H	06049220.08
I	

PEAK NAME	COEFFICIENTS			SD OF FIT	CORR COEFF
	a	b	c		
aaa-TRIFLUOROTOLUENE		3.283E-04	-5.710E-01	0.33659	0.99982

STD SURR 1. O

SAMPLE NO. : 06049220 . 01
TEST NO. :
METHOD NO. : 20 / 20D

INSTRUMENT: 20
DATE TIME: 06/04/92 10:48:58
PAGE NO. : 01



Y MAXIMUM: 8295.
Y MINIMUM: 4879.

START TIME: 0.00
END TIME: 56.00

0000077

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:45:52

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .01

INST:20 VIAL:FO SEQ NUMBER:001

TEST :

DATE-TIME INJECTED : 06/04/92 10:48:58

COLLECTION TIME : 52.92

DATE-TIME PROCESSED : 06/11/92 14:45:52

METHOD: 20 / 20D REV #: 00076

ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0mL

CLIENT:

COLUMN TYPE: CARBOPACKB,PID

LAB ID: STD SURR 1.0

RAW FILE: RAW1:F4255975

SAMPLE WT : % MOISTURE :

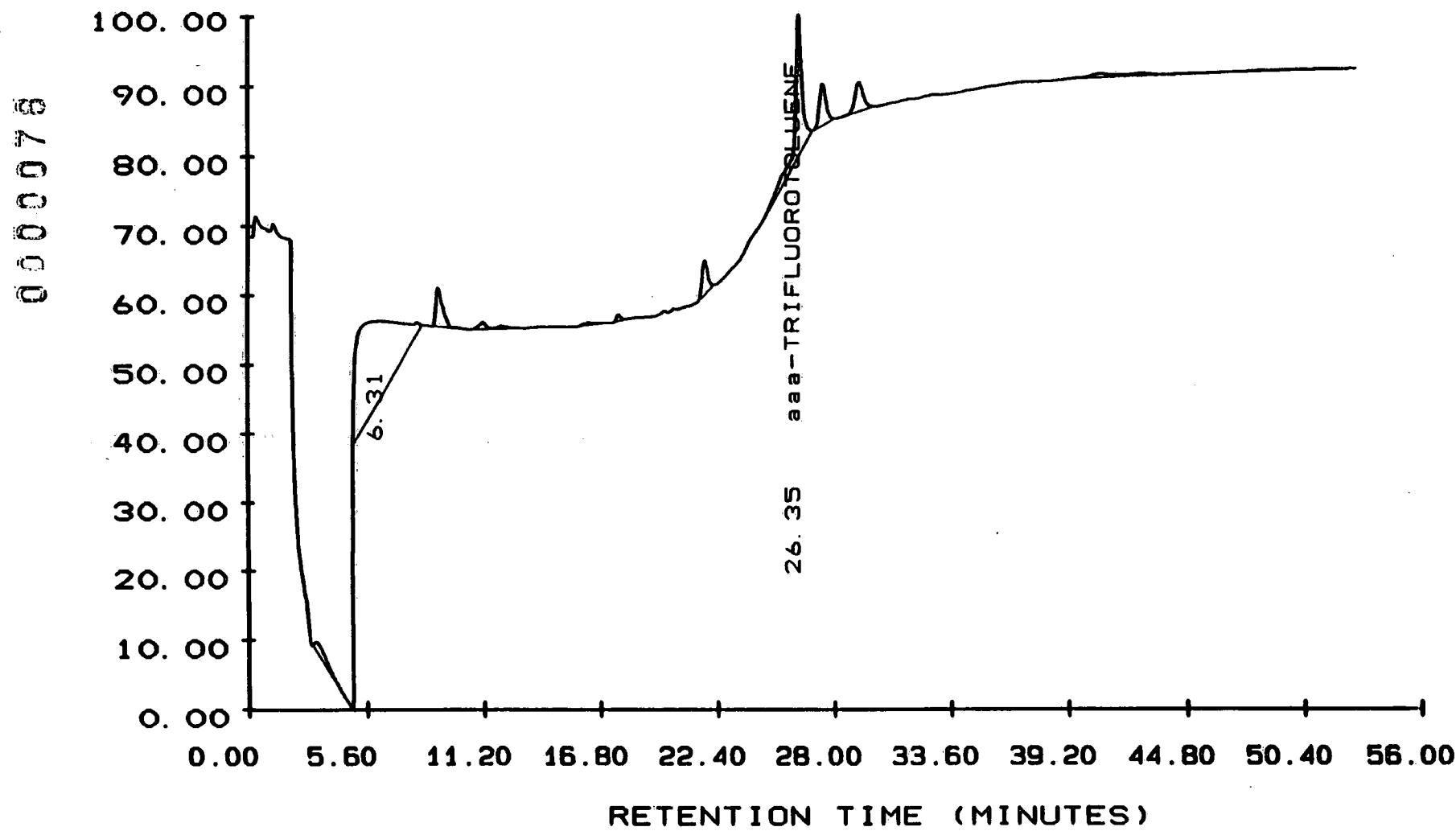
DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT		
						CONC	PPB	
001	2708003	13065	T	6.421				
002	660958	9940	T	9.102				
003	560777	4367		11.202				
006	135248	6408	V	26.332	M aaa-TRIFLUOROTOLUENE	1.533		

STD SURR 2.0

SAMPLE NO. : 06049220 .02
TEST NO. :
METHOD NO. : 20 / 20D

INSTRUMENT: 20
DATE TIME: 06/04/92 11:50:48
PAGE NO. : 01



Y MAXIMUM: 8165.
Y MINIMUM: 4807.

START TIME: 0.00
END TIME: 56.00

000079

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:46:06

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .02

INST:20 VIAL:FO SEQ NUMBER:002

TEST :

DATE-TIME INJECTED : 06/04/92 11:50:48

COLLECTION TIME : 52.92

DATE-TIME PROCESSED : 06/11/92 14:46:06

METHOD: 20 / 20D REV #: 00076

ANALYST: MARIA

SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0mL

CLIENT:

COLUMN TYPE: CARBOPACKB,PID

LAB ID: STD SURR 2.0

RAW FILE: RAW1:F4256031

SAMPLE WT : % MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	COMPONENT	HEIGHT CONC PPB
002	570464	3644		6.315			
009	158238	6670	V	26.355	M	aaa-TRIFLUOROTOLUENE	1.619

STD SURR 5. O

SAMPLE NO. : 06049220

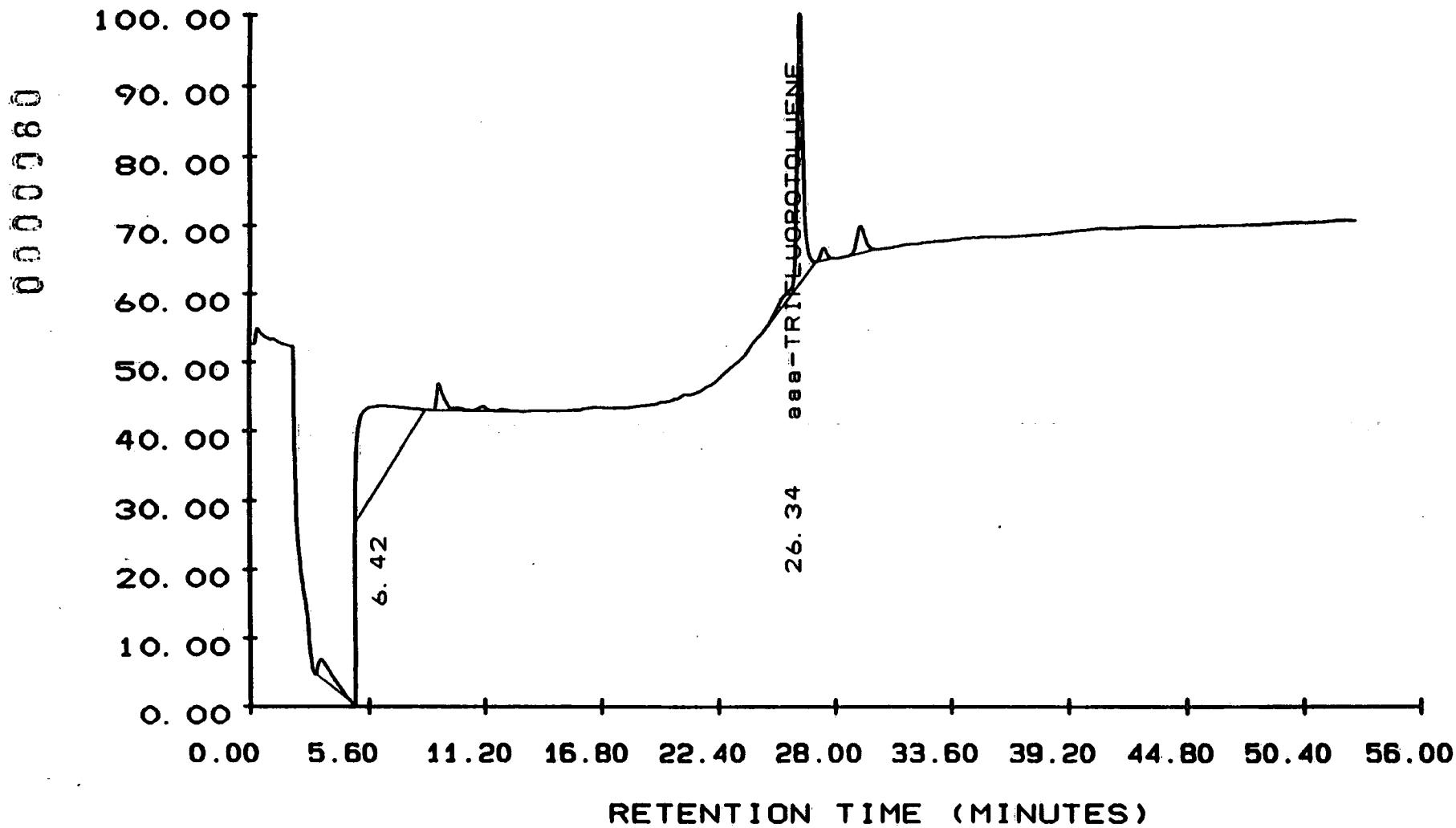
TEST NO. :

METHOD NO. : 20 / 20D

INSTRUMENT: 20

DATE TIME: 06/04/92 12:55:07

PAGE NO. : 01



0000081

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:46:19

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .03

INST:20 VIAL:F0 SEQ NUMBER:003

TEST :

DATE-TIME INJECTED : 06/04/92 12:55:07

COLLECTION TIME : 52.92

DATE-TIME PROCESSED : 06/11/92 14:46:19

METHOD: 20 / 20D REV #: 00076 ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0mL

CLIENT:

COLUMN TYPE: CARBOPACKB,PID

LAB ID: STD SURR 5.0

RAW FILE: RAW1:F4256055

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	COMPONENT	HEIGHT CONC PPB
002	723870	4334		6.421			
005	356734	16950	V	26.343	M	aaa-TRIFLUOROTOLUENE	4.994

STD SURR 10

SAMPLE NO. : 06049220

.04

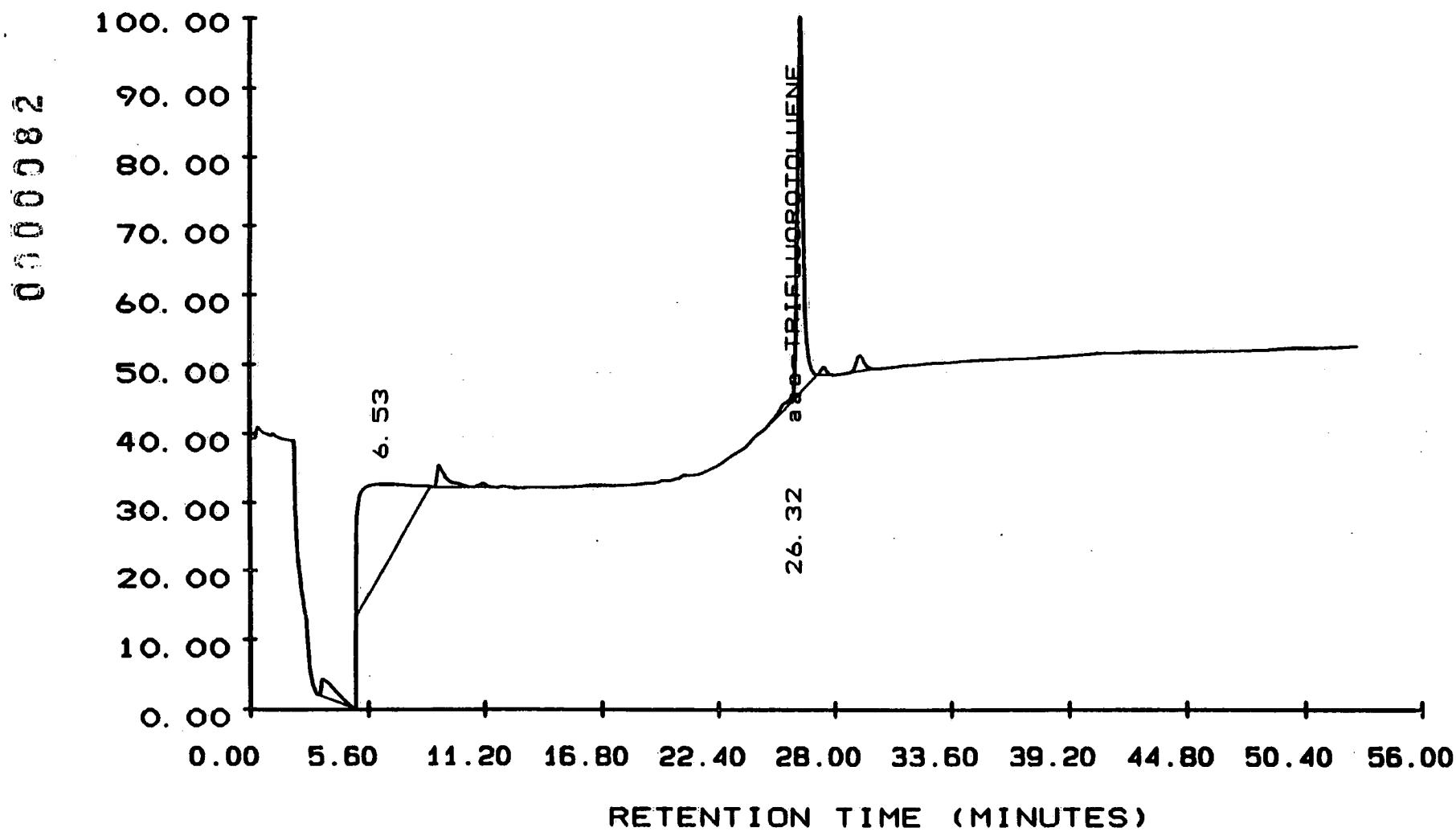
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/04/92 13:59:32

METHOD NO. : 20 / 20D

PAGE NO. : 01



Y MAXIMUM: 10696.

START TIME: 0.00

Y MINIMUM: 4784.

END TIME: 56.00

000083

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:46:33

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .04

INST:20 VIAL:FO SEQ NUMBER:004

TEST :

DATE-TIME INJECTED : 06/04/92 13:59:32

COLLECTION TIME : 52.92

DATE-TIME PROCESSED : 06/11/92 14:46:33

METHOD: 20 / 20D REV #: 00076

ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0mL

CLIENT:

COLUMN TYPE: CARBOPACKB,PID

LAB ID: STD SURR 10

RAW FILE: RAW1:F4256083

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	COMPONENT	HEIGHT	CONC	PPB
<hr/>									
002	1208771	6676		6.528					
006	636072	31987	V	26.325	M	aaa-TRIFLUOROTOLUENE	9.930		

STD SURR 20

SAMPLE NO. : 06049220

.06

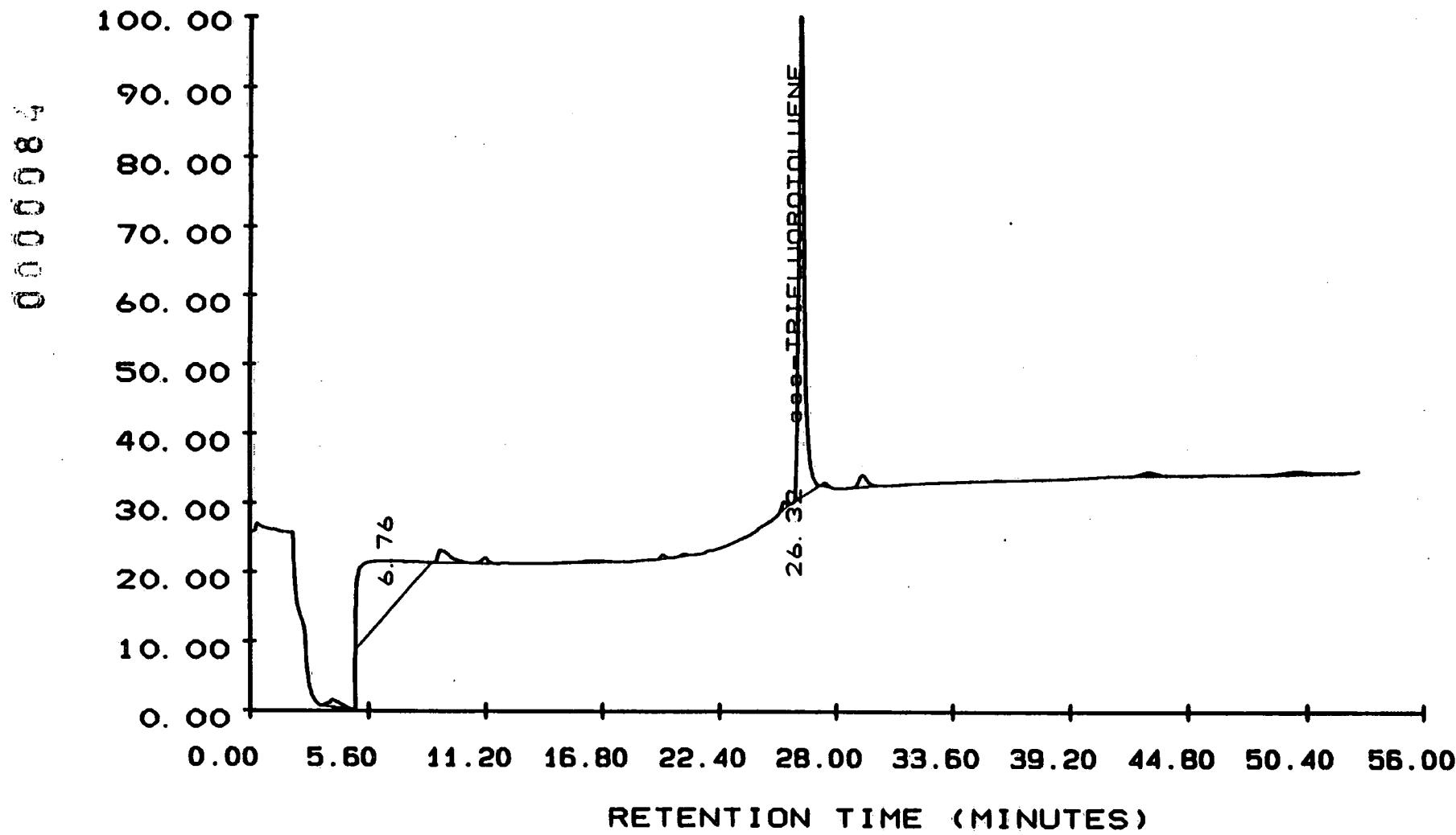
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/04/92 16:08:36

METHOD NO. : 20 / 20D

PAGE NO. : 01



Y MAXIMUM: 13784.

START TIME: 0.00

Y MINIMUM: 4777.

END TIME: 56.00

000085

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:46:48

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .06

INST:20 VIAL:F0 SEQ NUMBER:006

TEST :

DATE-TIME INJECTED : 06/04/92 16:08:36

COLLECTION TIME : 52.92

DATE-TIME PROCESSED : 06/11/92 14:46:48

METHOD: 20 / 20D REV #: 00076

ANALYST: MARIA SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0mL

CLIENT:

COLUMN TYPE: CARBOPACKB,PID

LAB ID: STD SURR 20

RAW FILE: RAW1:F4256141

SAMPLE WT : % MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	COMPONENT	HEIGHT CONC PPB
002	1220635	6004		6.763			
009	1181239	62260	V	26.325	M	aaa-TRIFLUOROTOLUENE	19.869

STD SURR 60

SAMPLE NO. : 06049220

.08

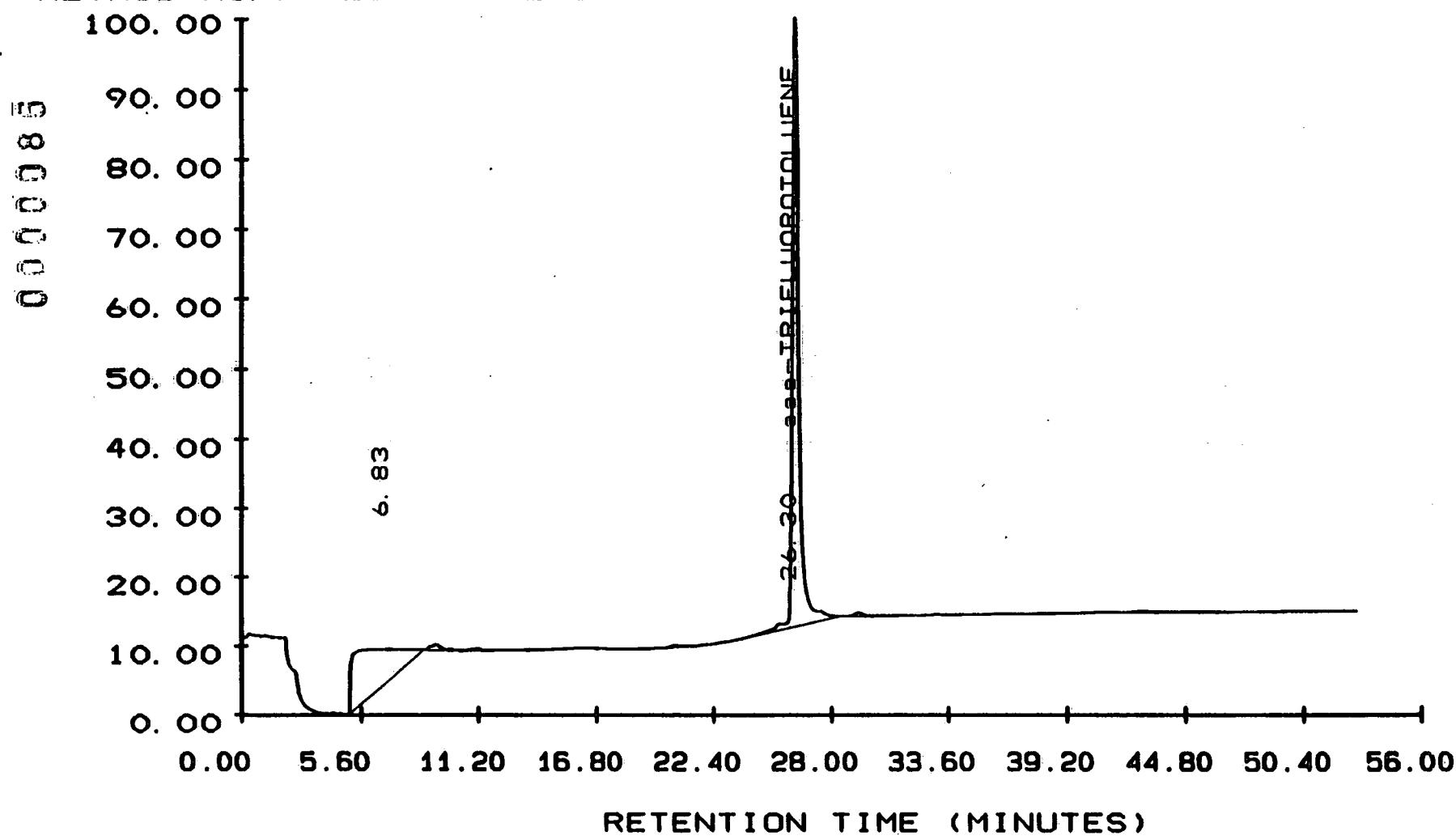
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/04/92 18:17:42

METHOD NO. : 20 / 20D

PAGE NO. : 01



Y MAXIMUM: 25907.

START TIME: 0.00

Y MINIMUM: 4725.

END TIME: 56.00

T-1

Roy F. Weston, Inc. - Lionville Laboratory

06/11/92 14:47:02

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06049220 .08 INST:20 VIAL:FO SEQ NUMBER:008
 TEST : DATE-TIME INJECTED : 06/04/92 18:17:42
 COLLECTION TIME : 52.92 DATE-TIME PROCESSED : 06/11/92 14:47:02
 METHOD: 20 / 20D REV #: 00076 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL: 5.0ml
 CLIENT: COLUMN TYPE: CARBOPACKB,PID
 LAB ID: STD SURR 60 RAW FILE: RAW1:F4256210
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR NAME	COMPONENT	HEIGHT CONC PPB
002	2018141	9895		6.833			
008	3873025	184635	V	26.297	M	aaa-TRIFLUOROTOLUENE	60.045

000088

WESTEN

RAW QC DATA

0000089 CLIENT SAMPLE NO.

GC VOLATILES SHEET

BLK

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 92LV5099-MB1Sample wt/vol: 5.00 (g/mL) MLLab File ID: FN236441Level: (low/med) LOWDate Received: 06/23/92% Moisture: not dec. Date Analyzed: 06/23/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
108-88-3-----	Toluene	1.0	U
1330-20-7-----	Xylene (total)	2.0	U

12/88 Rev.

92LV5099-MB1

SAMPLE NO. : 06239220 .01

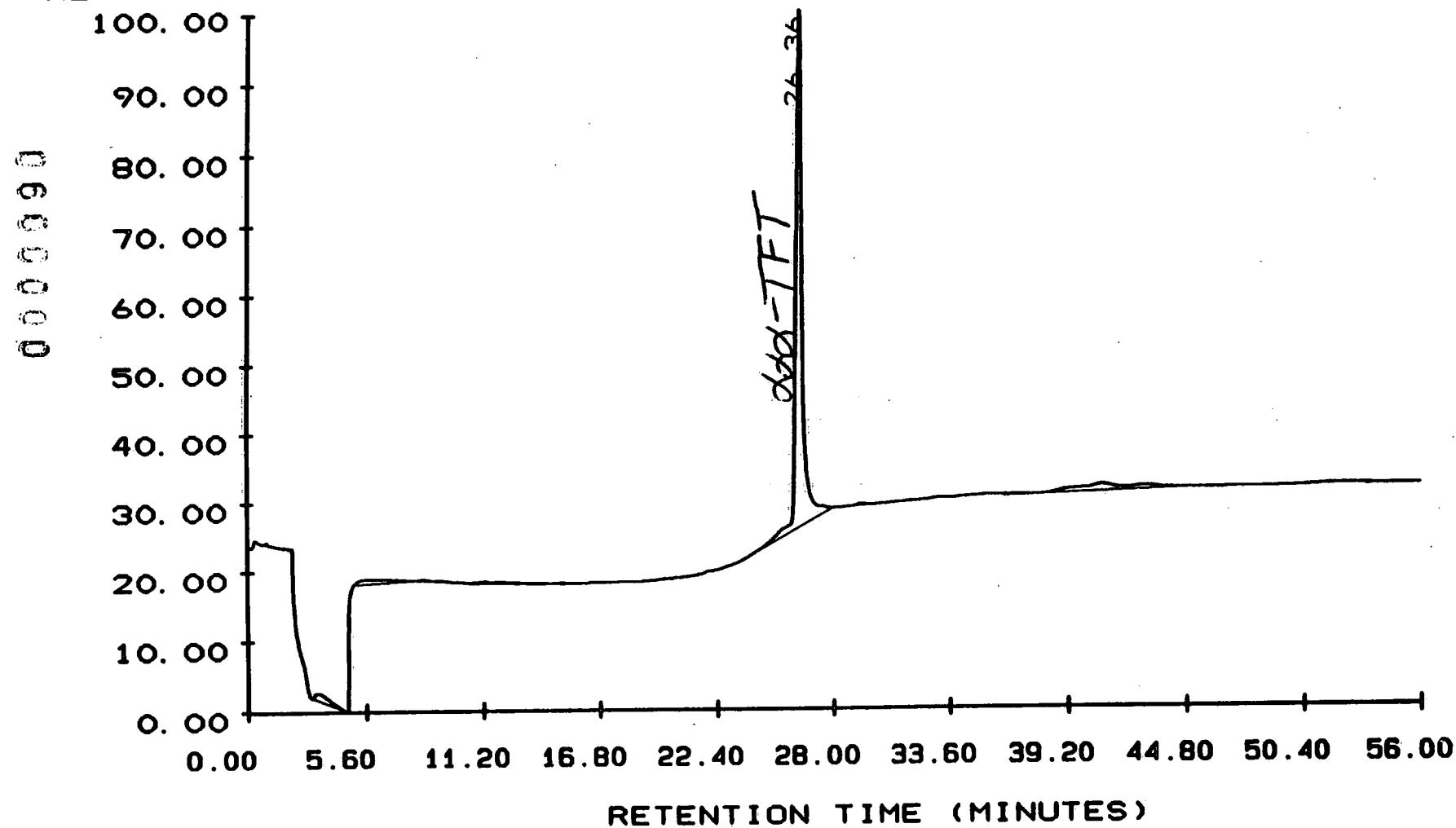
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/23/92 08:15:54

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 14446.
Y MINIMUM: 4843.

START TIME: 0. 00
END TIME: 56. 00

000091

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:24:14

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06239220 .01

INST:20 VIAL:FO SEQ NUMBER:001

TEST :

DATE-TIME INJECTED : 06/23/92 08:15:54

COLLECTION TIME : 56.01

DATE-TIME PROCESSED : 06/24/92 09:24:14

METHOD: 20 / 20

REV #: 00116 ANALYST: MARIA

SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL: 5.0 ML

CLIENT:

LAB ID: 92LV5099-MB1

COLUMN TYPE: CARBOPACK B,

SAMPLE WT : % MOISTURE :

RAW FILE: RAW1:FN236441
DILUTION FACTOR : 1.0000100 SP1000
P/D

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR COMPONENT #	HEIGHT		
					NAME	CONC	PPB
		19.573 M		TRICHLOROETHENE			
		20.280 M		BENZENE			
		25.507 M		TETRACHLOROETHENE			
005	1528743	71103	V	26.363 M aaa-TRIFLUOROTOLUENE	22.772		
		27.468 M		TOLUENE			
		29.199 M		CHLOROBENZENE			
		32.866 M		ETHYLBENZENE			
		40.807 M	M	- XYLENE			
		42.629 M	O	- XYLENE			
		42.956 M	P	- XYLENE			
		49.805 M		1,3-DICHLOROBENZENE			
		51.623 M		1,2-DICHLOROBENZENE			
		53.181 M		1,4-DICHLOROBENZENE			

2/10/94
2/10/94

000092 CLIENT SAMPLE NO.

GC VOLATILES SHEET

BLKMS

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 92LV5099-MB1 BSSample wt/vol: 5.00 (g/mL) ML Lab File ID: FN236465Level: (low/med) LOW Date Received: 06/23/92% Moisture: not dec. Date Analyzed: 06/23/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

<u>71-43-2-----Benzene</u>	<u>SP</u>
<u>100-41-4-----Ethylbenzene</u>	<u>SP</u>
<u>108-88-3-----Toluene</u>	<u>SP</u>
<u>1330-20-7-----Xylene (total)</u>	<u>SP</u>

SP: SPIKE COMPOUND

12/88 Rev.

92L V5099-MB1S

SAMPLE NO. : 06239220 . 02

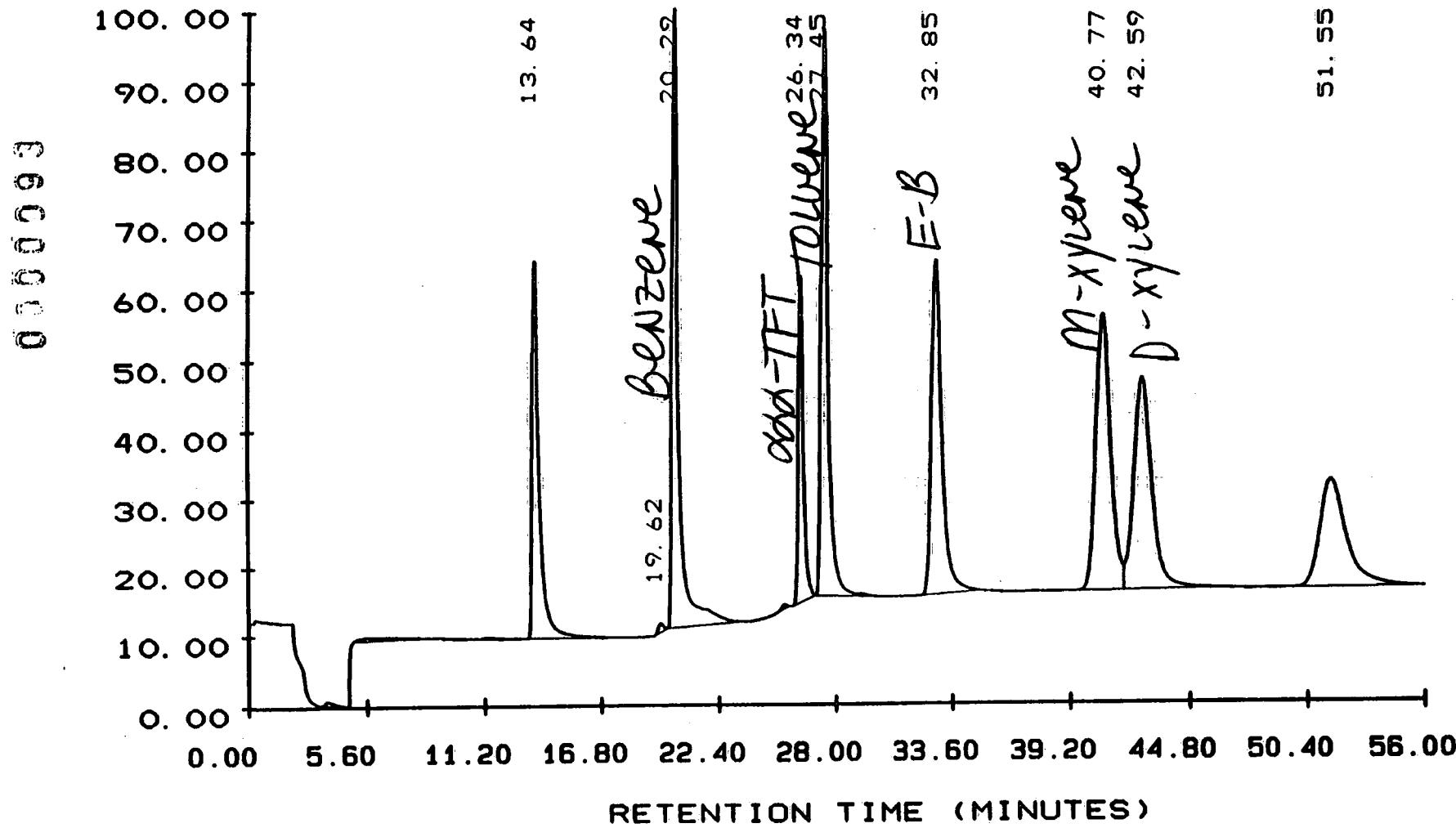
INSTRUMENT: 20

TEST NO.:

DATE TIME: 06/23/92 09:19:45

METHOD NO. : 20 / 20

PAGE NO. : 01



Y MAXIMUM: 23809.

START TIME: 0.00

Y MINIMUM: 4830.

END TIME: 56.00

000094

Roy F. Weston, Inc. - Lionville Laboratory

06/24/92 09:24:33

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06239220 .02
 TEST :
 COLLECTION TIME : 56.01
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: 92LV5099-MB1MS
 SAMPLE WT : % MOISTURE :

INST:20 VIAL:F0 SEQ NUMBER:002
 DATE-TIME INJECTED : 06/23/92 09:19:45
 DATE-TIME PROCESSED : 06/24/92 09:24:33
 SAMPLE VOL: 5.0 ML 1% SP/GVO
 COLUMN TYPE: CARBOPACK B, PID
 RAW FILE: RAW1:FN236465
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC
						PPB
004	2479795	103292	V 13.637			
005	42673	2391	V 19.621		TRICHLOROETHENE	0.799
006	3736205	168852	V 20.293		BENZENE	21.613
			25.507		TETRACHLOROETHENE	
008	1524803	88896	V 26.342		aaa-TRIFLUOROTOLUENE	28.614
009	3575347	154692	V 27.452		TOLUENE	21.467
			29.199		CHLOROBENZENE	
010	3240833	91372	32.852		ETHYLBENZENE	22.687
012	3677915	75556	T 40.766	M	- XYLENE	22.476
013	3454747	58492	42.589	O	- XYLENE	22.955
			42.950	P	- XYLENE	
			42.956	P	- XYLENE	
			49.805		1,3-DICHLOROBENZENE	
014	2700353	29986	51.551		1,2-DICHLOROBENZENE	22.484
			53.181		1,4-DICHLOROBENZENE	

high surrogate recovery

All compounds were quantitated using method 20
except those which are labeled.

110 | 92
✓

000095 CLIENT SAMPLE NO.

GC VOLATILES SHEET

BLK

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 92LV5098-MB1Sample wt/vol: 5.00 (g/mL) MLLab File ID: FM235983Level: (low/med) LOWDate Received: 06/22/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

71-43-2-----Benzene	1.0	U
100-41-4-----Ethylbenzene	1.0	U
108-88-3-----Toluene	1.0	U
1330-20-7-----Xylene (total)	2.0	U

12/88 Rev.

92LV5098-MB1

SAMPLE NO. : 06229220 . 01

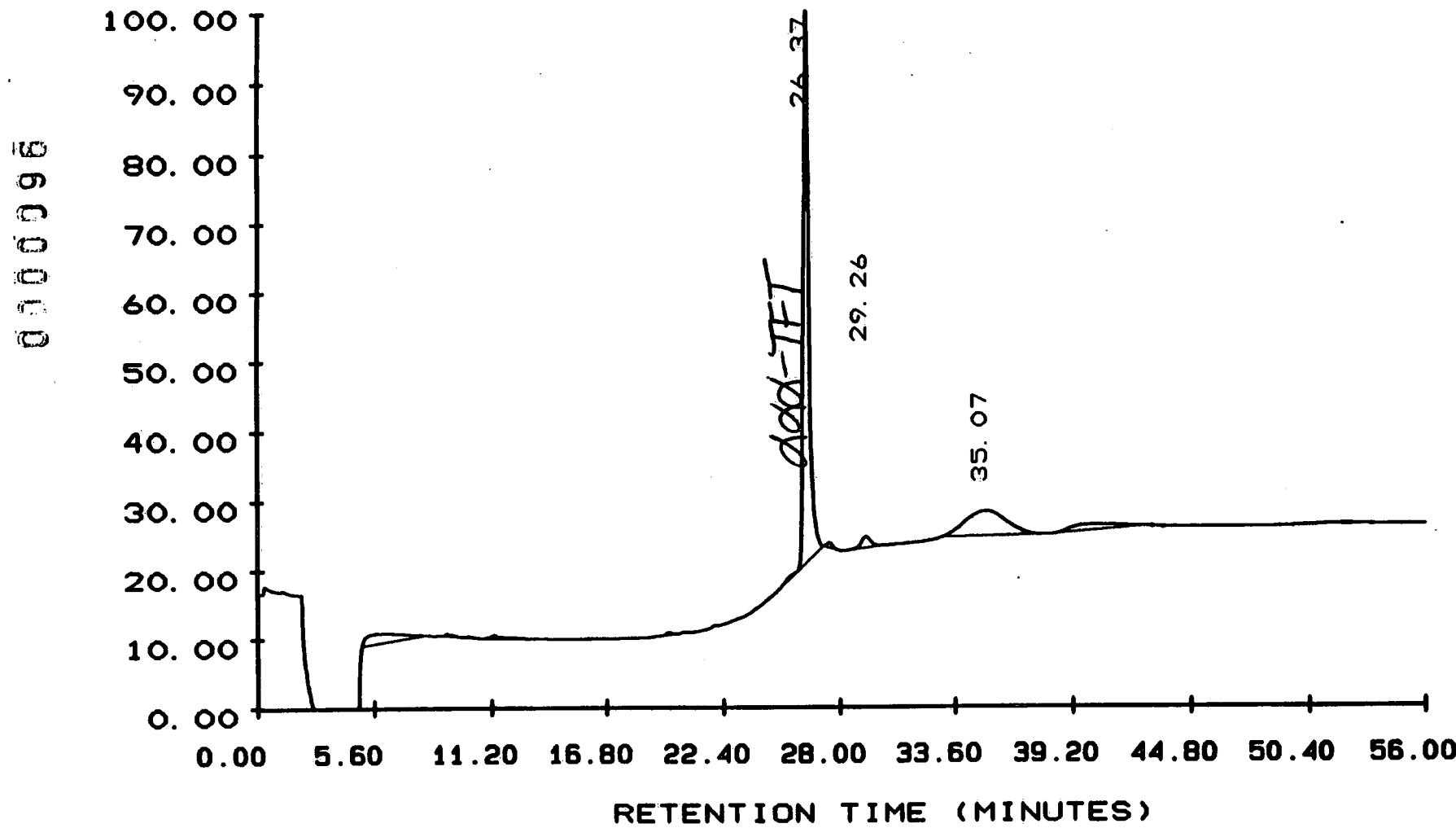
TEST NO. :

METHOD NO. : 20 / 20

INSTRUMENT: 20

DATE TIME: 06/22/92 08:45:02

PAGE NO. : 01



Y MAXIMUM: 14451.

Y MINIMUM: 5639.

START TIME: 0.00

END TIME: 56.00

0000397

Roy F. Weston, Inc. - Lionville Laboratory

06/22/92 09:41:20

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .01 INST:20 VIAL:FO SEQ NUMBER:001
TEST : DATE-TIME INJECTED : 06/22/92 08:45:02
COLLECTION TIME : 56.01 DATE-TIME PROCESSED : 06/22/92 09:41:20
METHOD: 20 / 20 REV #: 00115 ANALYST: MARIA SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL: 5.0 ML
CLIENT: COLUMN TYPE: CARBOPACK B,
LAB ID: 92LV5098-MB1 RAW FILE: RAW1:FM235983
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
					19.573 M TRICHLOROETHENE	
					20.280 M BENZENE	
					25.507 M TETRACHLOROETHENE	
005	1337627	69681	V	26.368 M	aaa-TRIFLUOROTOLUENE	22.305 ✓
				27.468 M	TOLUENE	
007	45434	1383		29.257 M	CHLOROBENZENE	0.177
				32.866 M	ETHYLBENZENE	
008	424013	3170	V	35.072		
				40.807 M	M - XYLENE	
				42.629 M	O - XYLENE	
				42.956 M	P - XYLENE	
				49.805 M	1,3-DICHLOROBENZENE	
				51.623 M	1,2-DICHLOROBENZENE	
				53.181 M	1,4-DICHLOROBENZENE	

000098

CLIENT SAMPLE NO.

GC VOLATILES SHEET

BLKMS

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 92LV5098-MB1 BSSample wt/vol: 5.00 (g/mL) ML Lab File ID: FM235999Level: (low/med) LOW Date Received: 06/22/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene		SP
100-41-4-----	Ethylbenzene		SP
108-88-3-----	Toluene		SP
1330-20-7-----	Xylene (total)		SP

SP: SPIKE COMPOUND

12/88 Rev.

92LV5098-MB1S

SAMPLE NO. : 06229220 .02

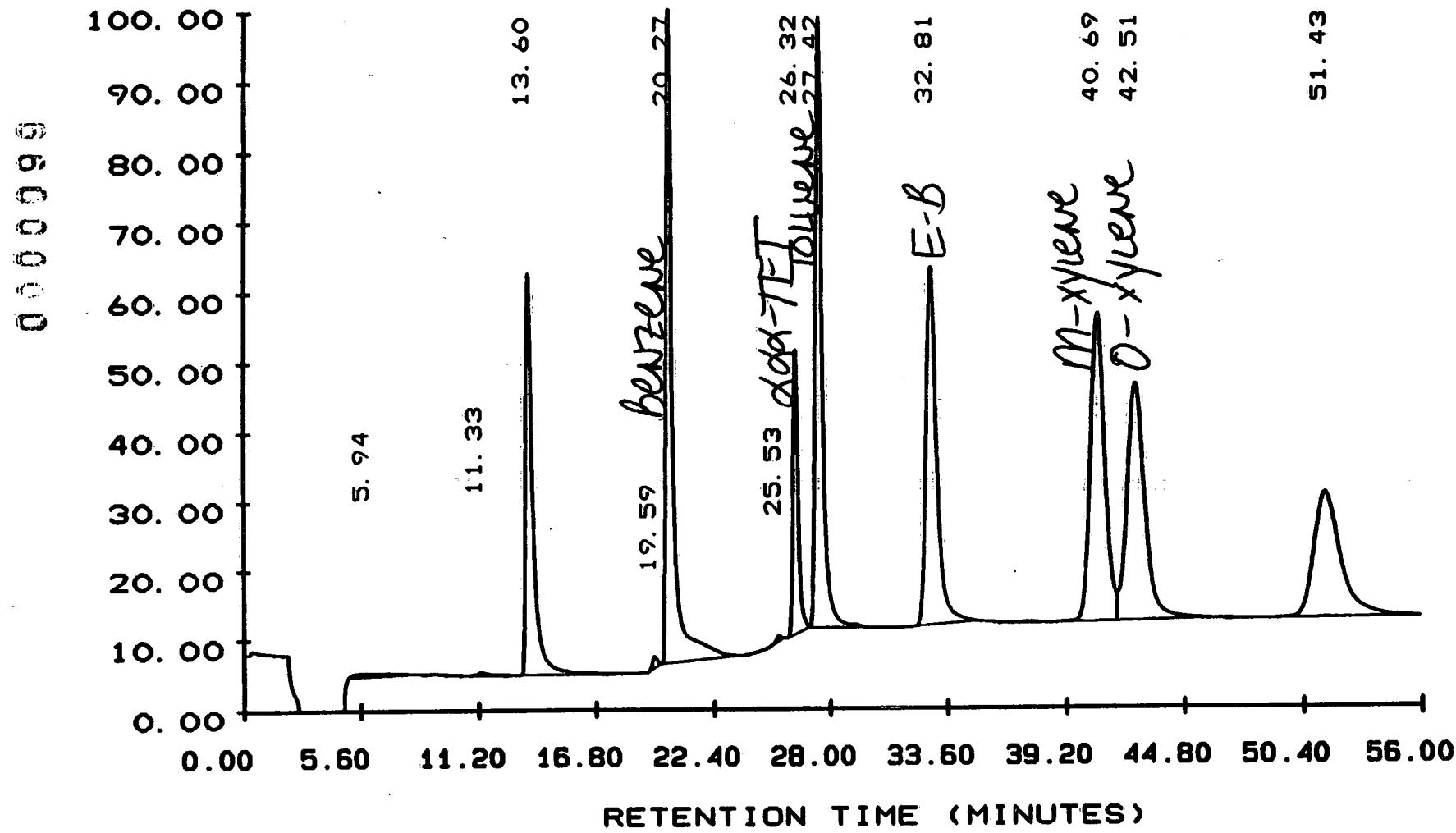
TEST NO. :

METHOD NO. : 20 / 20

INSTRUMENT: 20

DATE TIME: 06/22/92 09:48:48

PAGE NO. : 01



Y MAXIMUM: 24060.

START TIME: 0.00

Y MINIMUM: 5640.

END TIME: 56.00

0000100

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:06:09

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .02
 TEST :
 COLLECTION TIME : 55.90
 METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA
 CLIENT ID:
 CLIENT:
 LAB ID: 92LV5098-MB1MS
 SAMPLE WT : % MOISTURE :

INST:20 VIAL:FO SEQ NUMBER:002
 DATE-TIME INJECTED : 06/22/92 09:48:48
 DATE-TIME PROCESSED : 07/01/92 10:06:09
 SAMP RATE: 0.78
 SAMPLE VOL: 5.0 ML 1/2 SP1000
 COLUMN TYPE: CARBOPACK B, PID
 RAW FILE: RAW1:FM235999
 DILUTION FACTOR : 1.0000

PK	PEAK NO	PEAK AREA	BL	RT	GR	COMPONENT	HEIGHT CONC
							PPB
003	2537191	106076		13.604			
004	50154	2836	V	19.593		TRICHLOROETHENE	0.919 /
005	3821467	171938	V	20.268		BENZENE	21.996 /
006	22241	1337	V	25.530		TETRACHLOROETHENE	0.304
007	1288083	75215	V	26.325		aaa-TRIFLUOROTOLUENE	24.122 /
008	3682227	160026	V	27.424		TOLUENE	22.199 /
				29.199		CHLOROBENZENE	
009	3358055	94807		32.808		ETHYLBENZENE	23.534 /
011	3964507	81799	T	40.690	M	- XYLENE	24.333 /
012	3691789	63071		42.507	O	- XYLENE	24.775 /
				42.950	P	- XYLENE	
				42.956	P	- XYLENE	
				49.805		1,3-DICHLOROBENZENE	
013	2983745	33538		51.426		1,2-DICHLOROBENZENE	25.204
				53.181		1,4-DICHLOROBENZENE	

All compounds were quantitated using method 20
except those which are labeled.

7/10/92
P.W.

0000101 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-4MS

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATER Lab Sample ID: 9206L689-003 MSSample wt/vol: 5.00 (g/mL) ML Lab File ID: FM236330Level: (low/med) LOW Date Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene		SP
100-41-4-----	Ethylbenzene		SP
108-88-3-----	Toluene		SP
1330-20-7-----	Xylene (total)		SP

SP: SPIKE COMPOUND

12/88 Rev.

9206L689-003S

SAMPLE NO. : 06229220

.14

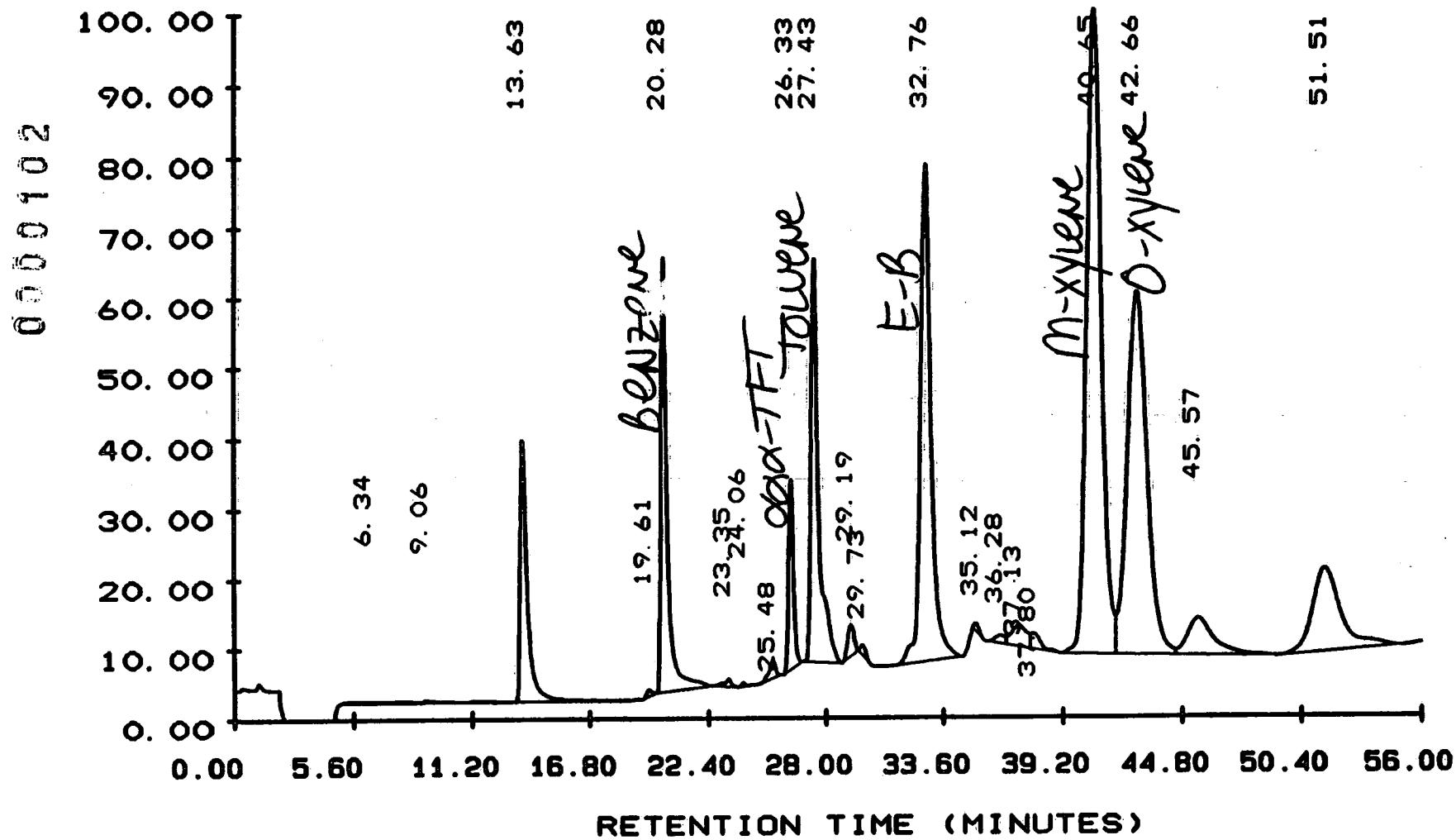
INSTRUMENT: 20

TEST NO. :

DATE TIME: 06/22/92 23:57:26

METHOD NO. : 20 / 20

PAGE NO.: 01



Y MAXIMUM: 31654.

Y MINIMUM: 6020.

START TIME: 0.00

END TIME: 56.00

0000103

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:11:28

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .14

INST:20 VIAL:FO SEQ NUMBER:014

TEST : O602X

DATE-TIME INJECTED : 06/22/92 23:57:26

COLLECTION TIME : 56.01

DATE-TIME PROCESSED : 07/01/92 10:11:28

METHOD: 20 / 20 REV #: 00116 ANALYST: MARIA

SAMP RATE: 0.78

CLIENT ID: MW-4

SAMPLE VOL: 5.0 ML 1% SP/GD

CLIENT: WSI LE CARPENTER

COLUMN TYPE: CARBOPACK B, PID

LAB ID: 9206L689-003MS

RAW FILE: RAW1:FM236330

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT NAME	HEIGHT CONC PPB
004	2291725	95087	T	13.631		
006	42404	2292	V	19.608	TRICHLOROETHENE	0.773
007	3294395	157769	V	20.282	BENZENE	20.239 ✓
008	74646	2710	V	23.352		
009	16697	1299	V	24.056		
010	135939	6601	V	25.480	TETRACHLOROETHENE	1.542
011	1113013	68843	V	26.333	aaa-TRIFLUOROTOLUENE	22.030 ✓
012	3668831	146640	V	27.435	TOLUENE	20.362 ✓
013	243739	11337	V	29.193	CHLOROBENZENE	1.917
014	62005	3555	V	29.733		
015	6397235	181009		32.764	ETHYLBENZENE	44.792 ✓
016	44741	2700	V	35.124		
017	99500	2995	T	36.277		
018	381555	7859	T	37.129		
019	196331	5709	V	37.805		
020	1098201	233648	T	40.650	M - XYLENE	69.493 } 121.736
021	8536973	132174		42.662	O - XYLENE	52.243 }
				T 42.950	P - XYLENE	
022	1204557	13520	V	45.567		
				49.805	1,3-DICHLOROBENZENE	
023	2852571	30606		51.508	1,2-DICHLOROBENZENE	22.959
				53.181	1,4-DICHLOROBENZENE	

All compounds were quantitated using method 20
except those which are labeled.

7/10/92
Bry

0000104 CLIENT SAMPLE NO.

GC VOLATILES SHEET

MW-4MSD

Lab Name: Roy F. Weston, Inc. Work Order: 3600-04-90-0004Client: WSI LE CARPENTERMatrix: WATERLab Sample ID: 9206L689-003 MSDSample wt/vol: 5.00 (g/mL) MLLab File ID: FM236269Level: (low/med) LOWDate Received: 06/18/92% Moisture: not dec. Date Analyzed: 06/22/92Column: (pack/cap) PACKDilution Factor: 1.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

71-43-2-----	Benzene		SP
100-41-4-----	Ethylbenzene		SP
108-88-3-----	Toluene		SP
1330-20-7-----	Xylene (total)		SP

SP: SPIKE COMPOUND

12/88 Rev.

9206L689-003T

SAMPLE NO. : 06229220

TEST NO. : . 12

METHOD NO. : 20 / 20

100. 00

90. 00

80. 00

70. 00

60. 00

50. 00

40. 00

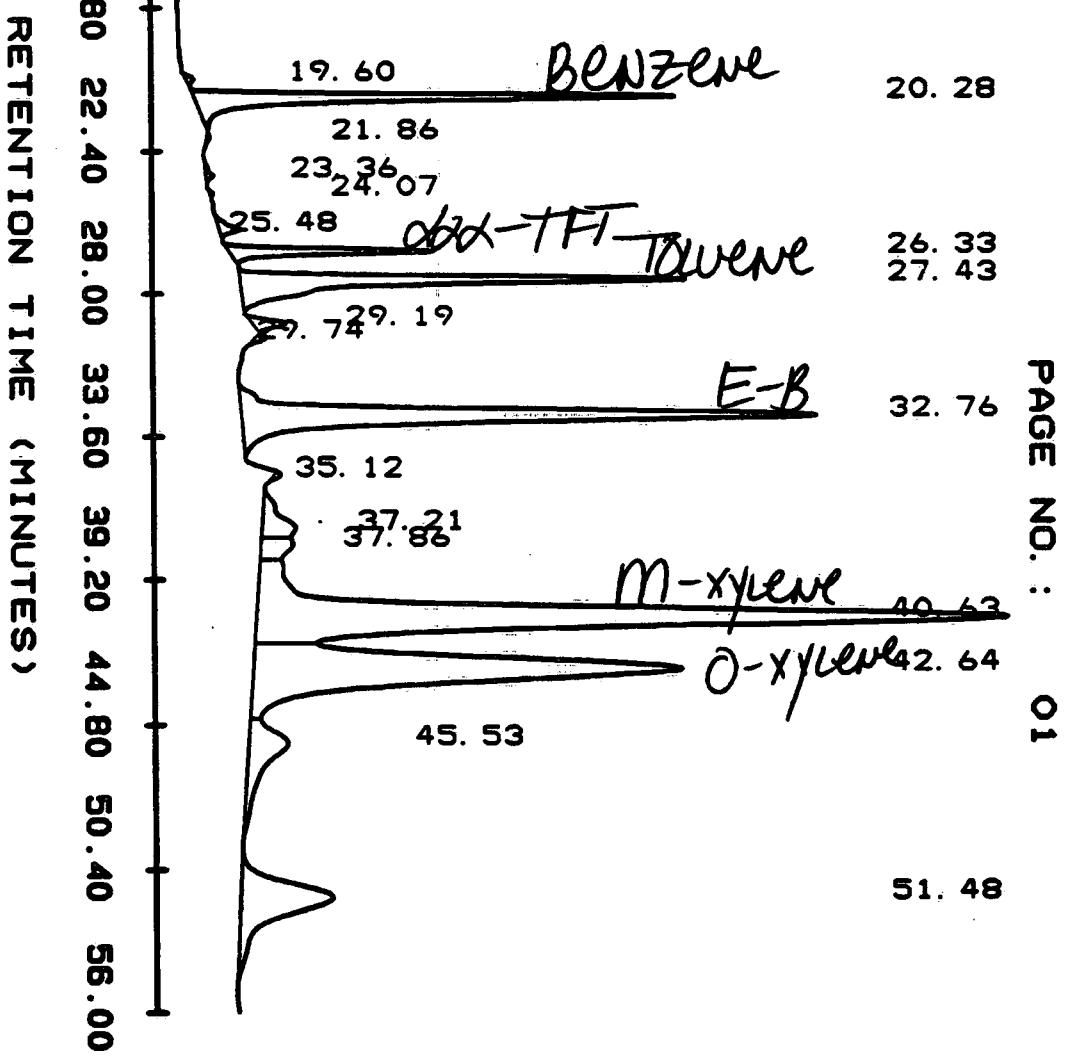
30. 00

20. 00

10. 00

0. 00

INSTRUMENT: 20
DATE TIME: 06/22/92 21:29:42
PAGE NO. : 01



0000106

Roy F. Weston, Inc. - Lionville Laboratory

07/01/92 10:10:58

MULTILEVEL EXTERNAL STANDARD

SAMPLE: 06229220 .12

INST:20 VIAL:FO SEQ NUMBER:012

TEST : 0602X

DATE-TIME INJECTED : 06/22/92 21:29:42

COLLECTION TIME : 56.01

DATE-TIME PROCESSED : 07/01/92 10:10:58

METHOD: 20 / 20

REV #: 00116 ANALYST: MARIA

SAMP RATE: 0.78

CLIENT ID: MW-4

SAMPLE VOL: 5.0 ML 1% SP/CD

CLIENT: WSI LE CARPENTER

COLUMN TYPE: CARBOPACK B, PID

LAB ID: 9206L689-003MSD

RAW FILE: RAW1:FM236269

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL MINUTES	RT #	GR COMPONENT	HEIGHT CONC PPB
002	51921	1256	T	9.052		
004	2313293	98187	T	13.610		
006	47066	2548	V	19.597	TRICHLOROETHENE	0.842
007	3099355	161003	V	20.277	BENZENE	20.640
009	61368	2498	V	23.360		
011	160510	7156	V	25.479	TETRACHLOROETHENE	1.673
012	1109049	68926	V	26.334	aaa-TRIFLUOROTOLUENE	22.057
013	3718771	149475	V	27.435	TOLUENE	20.751
014	239460	11097	V	29.194	CHLOROBENZENE	1.875
015	64832	3678	V	29.735		
016	6693287	192963		32.755	ETHYLBENZENE	47.739
017	38615	2400	V	35.123		
018	688022	11442	T	37.205		
019	496702	10932	T	37.859		
020	3148813	251898	T	40.630	M - XYLENE	74.920
021	9740787	144352		42.637	O - XYLENE	57.084
			T	42.950	P - XYLENE	32004-16/10
022	1400987	13354	V	45.528		
				49.805	1,3-DICHLOROBENZENE	
023	2849421	31355		51.477	1,2-DICHLOROBENZENE	23.532
				53.181	1,4-DICHLOROBENZENE	

All compounds were quantitated using method 20
except those which are labeled.

7/01/92

157

SAMPLE PREP RECORD

Sheet no.: 1

Extract. Date: 06/22/92

Extraction Batch No: 92LV5098

Analyst: MB

Method: N/A

Test: 0602

Cleanup Date:

Analyst:

Client: WSI LE CARPENTER

LIMS Report Date: 07/10/92

Solvent:

Adsorbent:

Sample No:	Client Name Client ID	pH WT/VOL	Initial Surr. Mult.	Spike Mult.	Final VOL VOL	Final VOL VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
9206L689- WSI LE CARPENTER										
001 X	FB-1	5	1.0		5		1.0	N		1.0
002 X	TBLK-1	5	1.0		5		1.0	N		1.0
003 X	MW-4	5	1.0		5		1.0	N		1.0
003 XS	MW-4	5	1.0	1.0	5		1.0	N		1.0
003 XT	MW-4	5	1.0	1.0	5		1.0	N		1.0
004 X	MW-22	5	1.0		5		1.0	N		1.0
005 X	MW-25	5	1.0		5		1.0	N		1.0
006 X	MW-14	5	1.0		5		1.0	N		1.0
007 X	MW-15	5	1.0		5		1.0	N		1.0
92LV5098-MB1 X		5	1.0		5		1.0	N		1.0
92LV5098-MB1 XS		5	1.0	1.0	5		1.0	N		1.0

Comments:

Surrogate:

Spike:

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer

SAMPLE PREP RECORD

Sheet no.: 1

Extract. Date: 06/23/92

Extraction Batch No: 92LV5099

Analyst: MB

Method: N/A

Test: 0812

Cleanup Date:

Analyst:

Client: PEASE AFB

LIMS Report Date: 07/10/92

Solvent:

Adsorbent:

Sample No:	Client Name Client ID	pH	Initial Surr. WT/VOL	Spike Mult.	Final VOL	Final VOL	Split Mult.	GPC Y/N	% Solids	C/D FACTOR
9206L678-	PEASE AFB									
000	003 34-009-P023	5	1.0		5		1.0	N		1.0
000	003 -S 34-009-P023	5	1.0	1.0	5		1.0	N		1.0
000	003 -T 34-009-P023	5	1.0	1.0	5		1.0	N		1.0
111	9206L683-	PEASE AFB								
000	001 32-004-P020	5	1.0		5		1.0	N		1.0
000	003 32-006-P020	5	1.0		5		1.0	N		1.0
000	004 32-007-P020	5	1.0		5		1.0	N		1.0
000	004 -S 32-007-P020	5	1.0	1.0	5		1.0	N		1.0
000	004 -T 32-007-P020	5	1.0	1.0	5		1.0	N		1.0
9206L689-	WSI LE CARPENTER									
	004 X D1 MW-22	5	1.0		5		1.0	N		1.0
	006 X D1 MW-14	5	1.0		5		1.0	N		1.0
	92LV5099-MB1	5	1.0		5		1.0	N		1.0
	92LV5099-MB1 -S	5	1.0	1.0	5		1.0	N		1.0
	92LV5099-MB1 X	5	1.0		5		1.0	N		1.0
	92LV5099-MB1 XS	5	1.0	1.0	5		1.0	N		1.0
	92LV5099-MB1	5	1.0		5		1.0	N		1.0
	92LV5099-MB1 -S	5	1.0	1.0	5		1.0	N		1.0

Comments:

Surrogate:

Spike:

Extracts Transferred	Relinquished By	Date Time	Received By	Date Time	Reason for Transfer

0000109

WESTEN

END OF DATA PACKAGE